VOL. XLV. No. 4 APRIL 1960

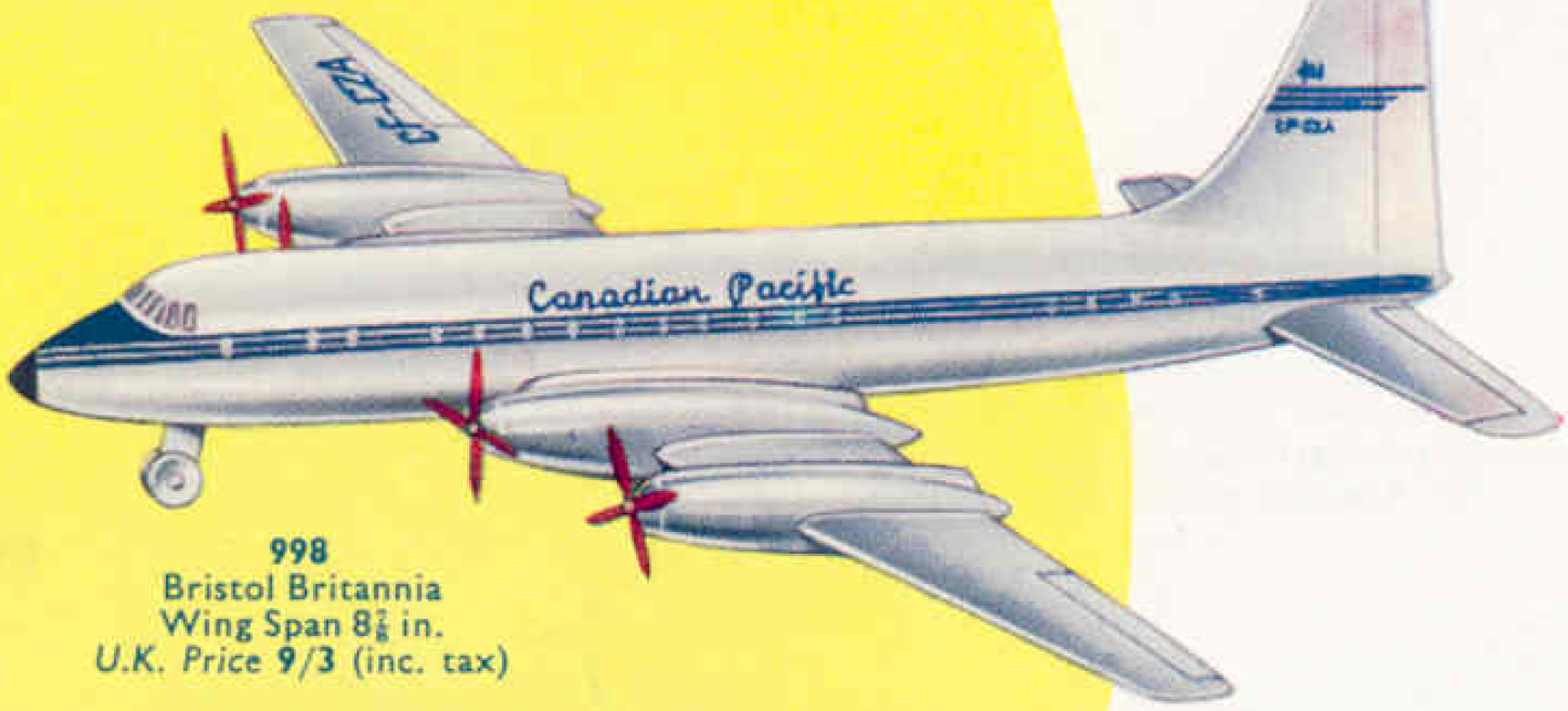
MECCANO MAGAZINE

15c

DINKY SUPERTOYS

Dinky Supertoys are the "big brothers" of Dinky Toys, produced in the same superlative quality. Look closely at their detail and their exact proportions. See the whole range, they're more than realistic—they're real.

MADE BY MECCANO LTD.

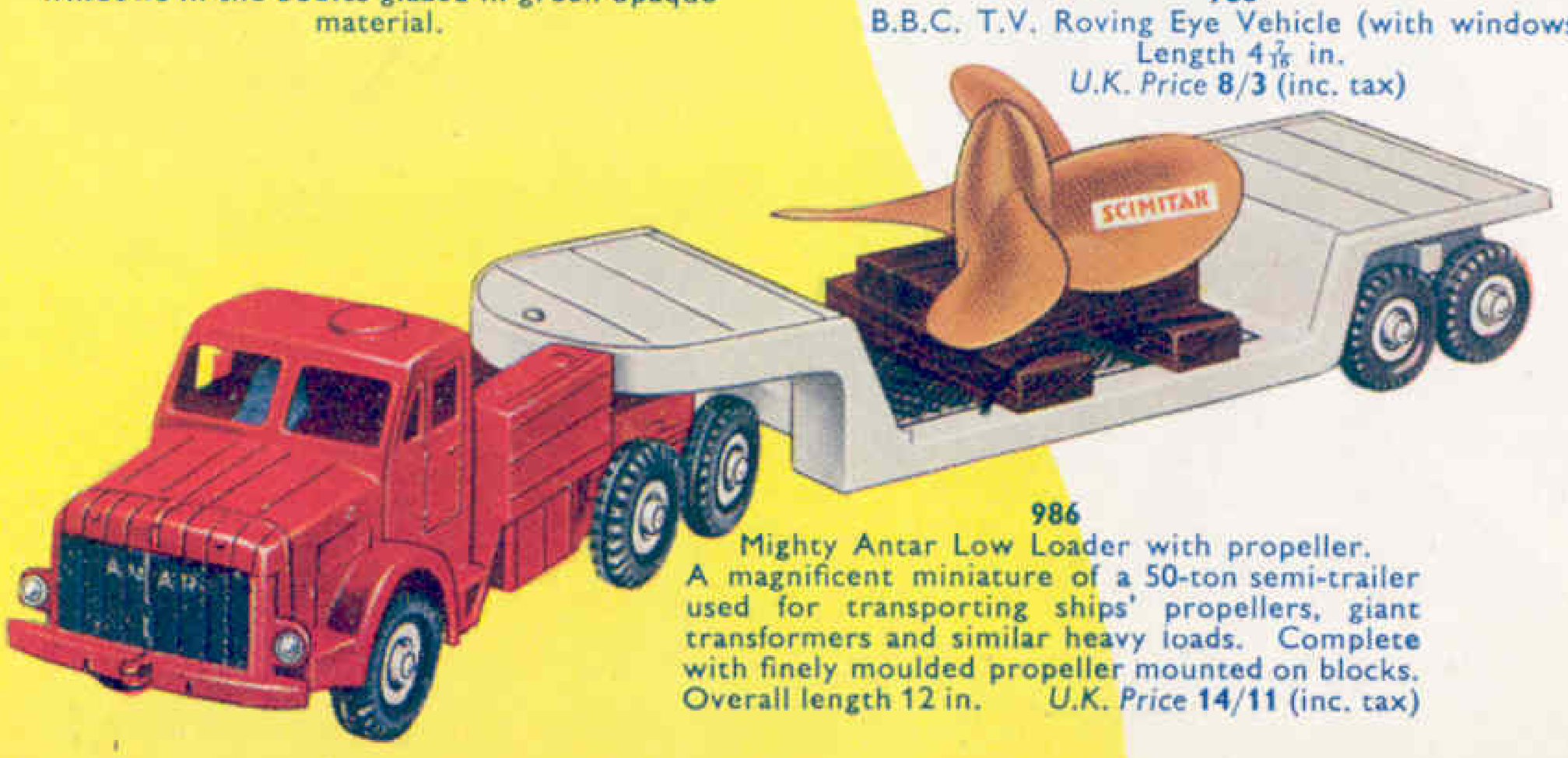


998
Bristol Britannia
Wing Span 8⅞ in.
U.K. Price **9/3** (inc. tax)

967
B.B.C. T.V. Mobile Control Room
with windows
Length 5⅛ in.
U.K. Price **8/3** (inc. tax)

These are models of the two main mobile camera units of the B.B.C. used for telecasting sports meetings, pageants, conferences and similar events. Both are finished in dark green with the B.B.C. coat of arms, and have transparent windows in the cabs, with the windows in the bodies glazed in green opaque material.

968
B.B.C. T.V. Roving Eye Vehicle (with windows)
Length 4 7/16 in.
U.K. Price **8/3** (inc. tax)

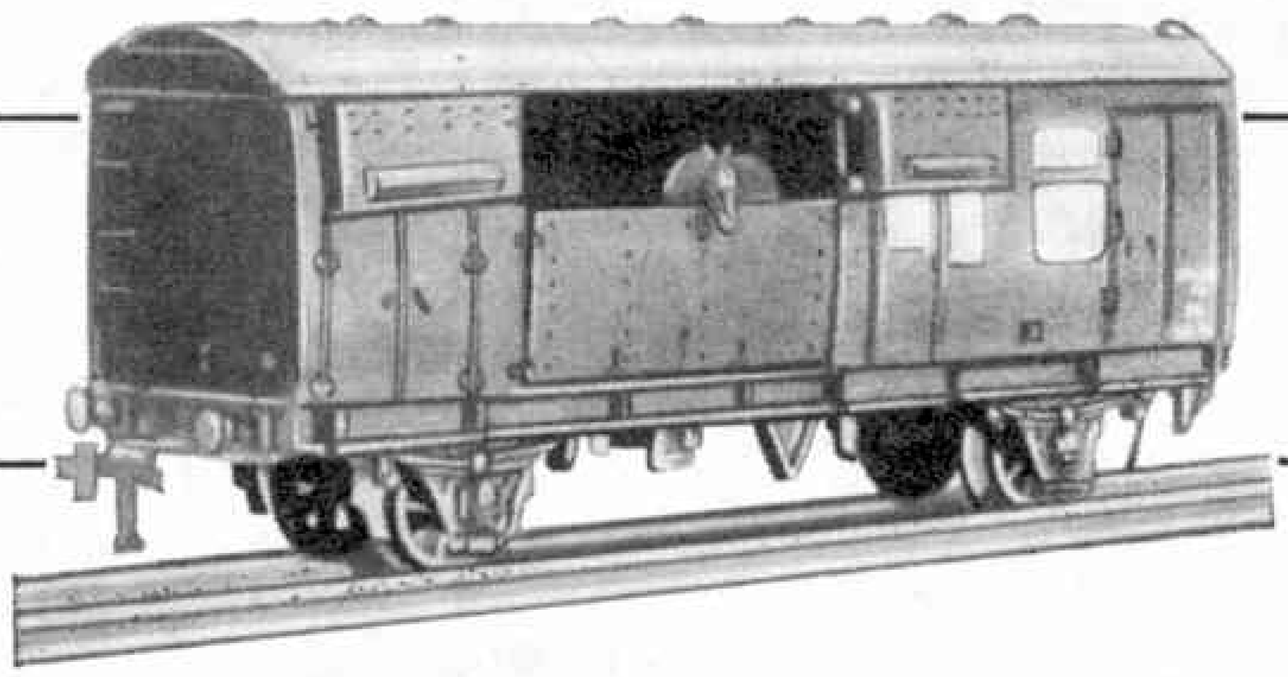


986
Mighty Antar Low Loader with propeller.
A magnificent miniature of a 50-ton semi-trailer used for transporting ships' propellers, giant transformers and similar heavy loads. Complete with finely moulded propeller mounted on blocks. Overall length 12 in. *U.K. Price* **14/11** (inc. tax)

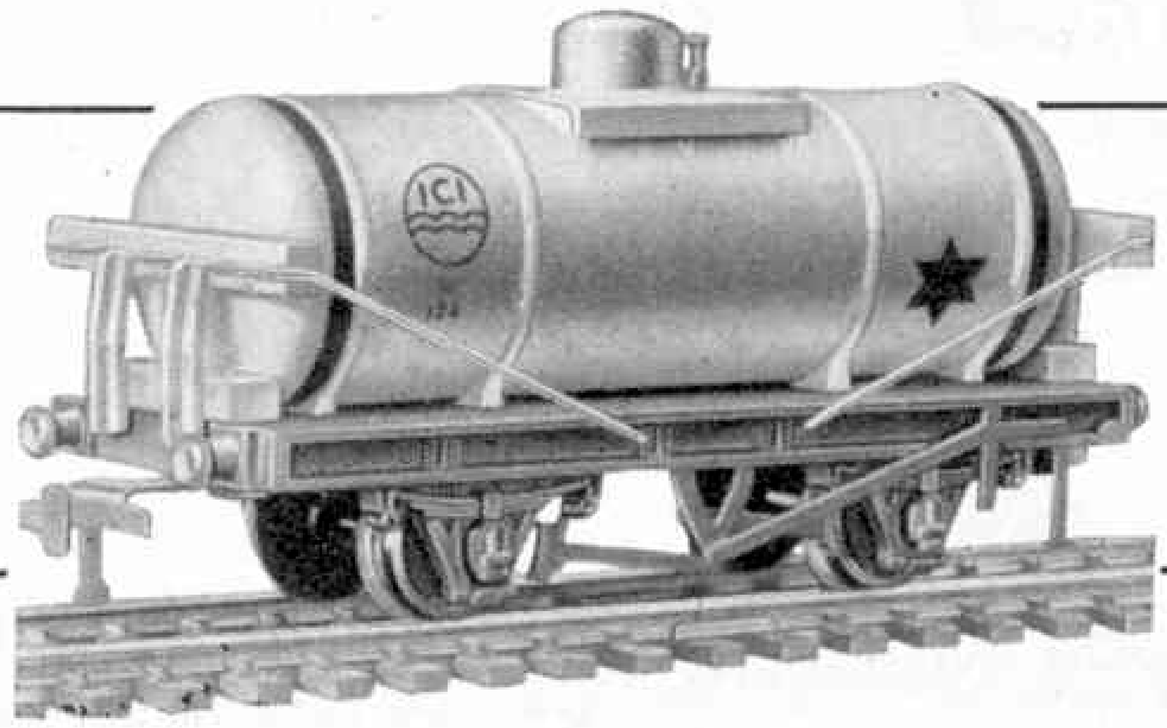
HORNBY DUBLO ELECTRIC TRAINS

SUPER-DETAIL
ROLLING STOCK

. . . unsurpassed for detail, strength and quality

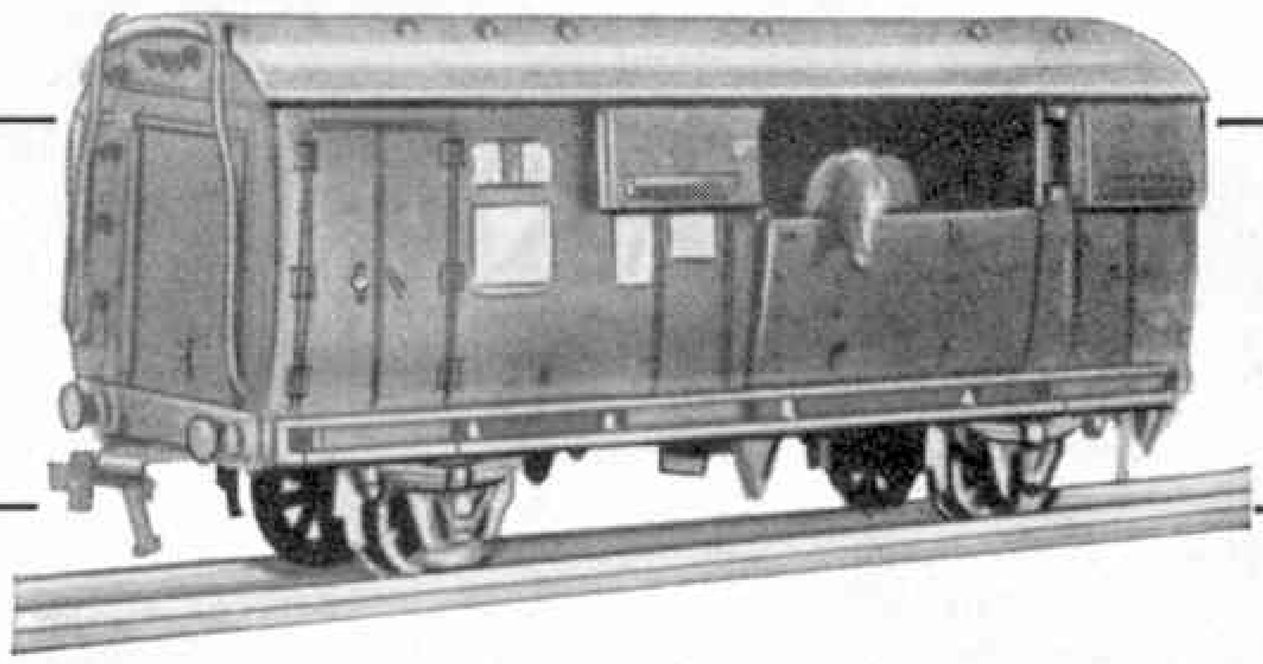


No. 4316 Horse Box (S.R.) with Horse. Length 5 1/16 in.
U.K. Price 9/6 (inc. tax)



No. 4675 I.C.I. CHLORINE Tank Wagon.
Length 4 1/4 in.
U.K. Price 9/– (inc. tax)

No. 4315 Horse Box (B.R.) with horse. Length 5 1/16 in.
U.K. Price 9/6 (inc. tax)



To be sure Hornby-Dublo "Super-Detail" rolling stock is the finest of its kind ever produced. Each vehicle has a superbly-detailed moulded body and strong, die-cast metal base, while nylon wheels ensure smooth, trouble-free running. See the growing range NOW at your dealers.

MADE AND GUARANTEED BY MECCANO LTD.

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I Know . . . a Railway Station

A Bayko Set provides the ideal assortment of bricks, doors, windows, etc., from which any type of building can be modelled. The models are easily dismantled and the parts used again to build a different model as often as you wish.

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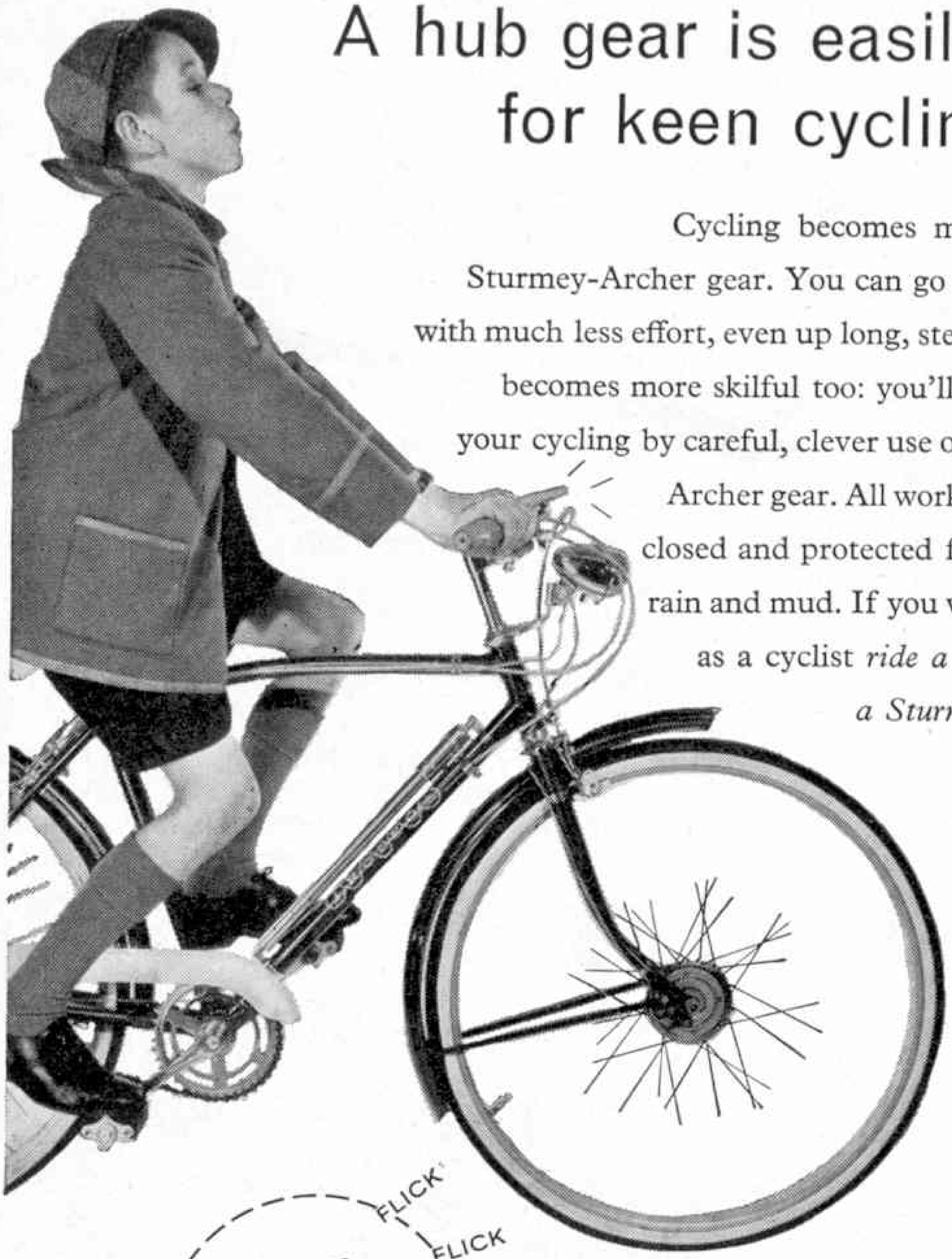
BAYKO

BUILDING SETS

MADE BY MECCANO LTD.

A hub gear is easily best for keen cycling



Cycling becomes more fun with a Sturmey-Archer gear. You can go so much further with much less effort, even up long, steep hills. Cycling becomes more skilful too: you'll get more out of your cycling by careful, clever use of your Sturmey-Archer gear. All working parts are enclosed and protected from knocks and rain and mud. If you want to go places as a cyclist *ride a cycle fitted with a Sturmey-Archer gear.*

FLICK your Sturmey-Archer into 'first' for a smooth climb up a steep, stiff hill;
FLICK it into 'second' to cut through a head wind with ease;
FLICK it into 'third' for a long, fast trip.

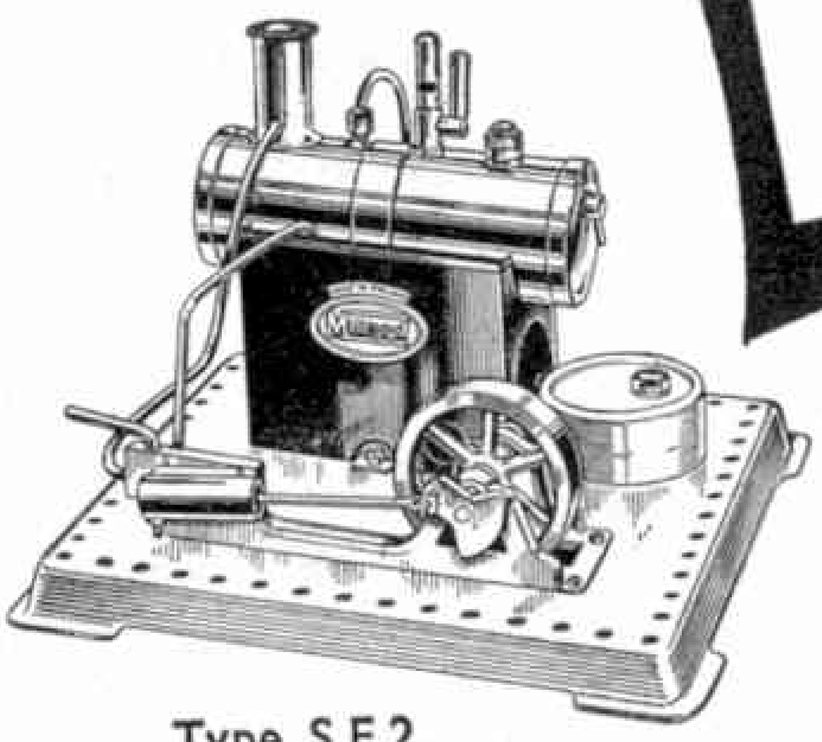
NO CYCLE IS COMPLETE WITHOUT A

STURMEY ARCHER GEAR

SA/62

"Just what you've always wanted"

THE WORLD FAMOUS **Mamod** STEAM ENGINE



Type S.E.2 Superheated 57/6

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Tell Dad you'd like one.

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DINKY TOYS
No. 772

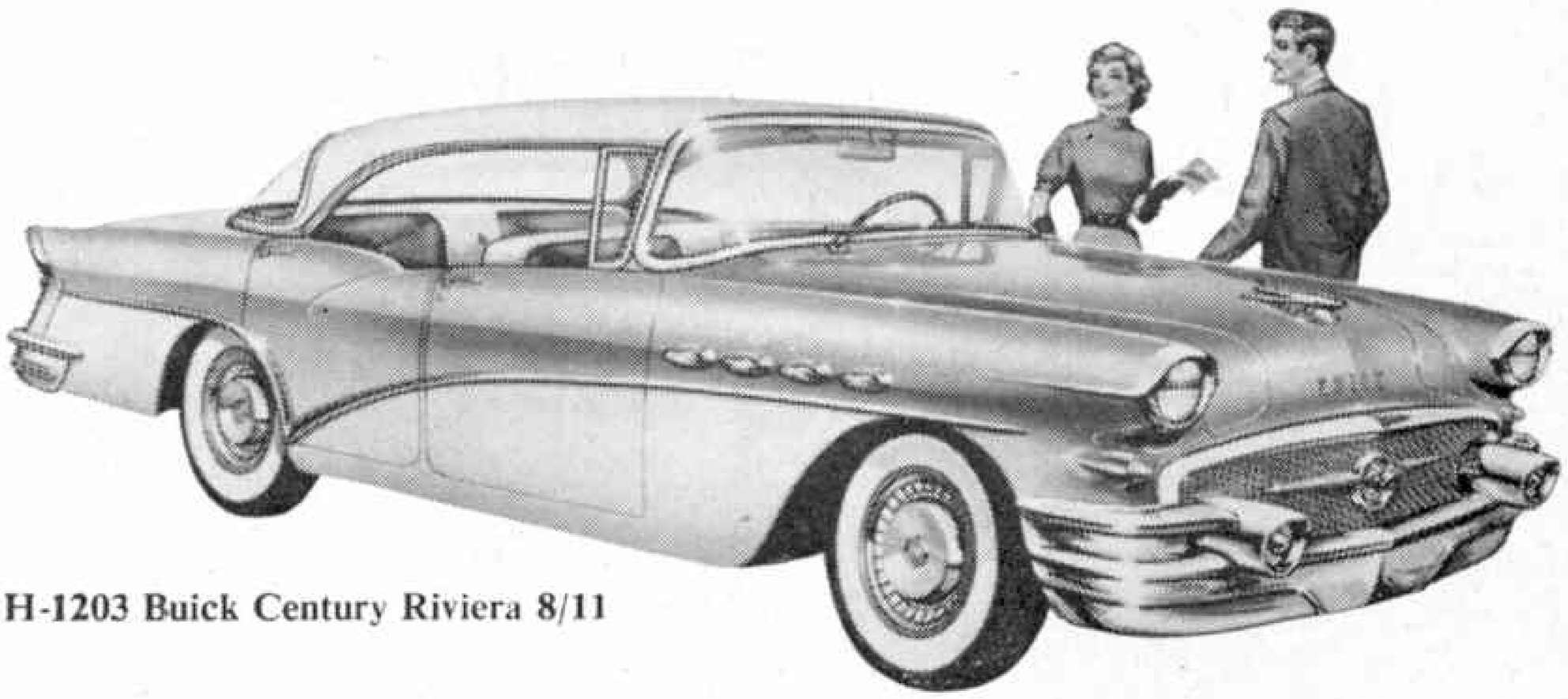
BRITISH ROAD SIGNS

Scaled for use with Dinky Toys, these miniature Road Signs supply an authentic atmosphere for road scenes of all kinds.

They are available in a complete set of 24 signs. U.K. Price **10/6** (inc. Tax).

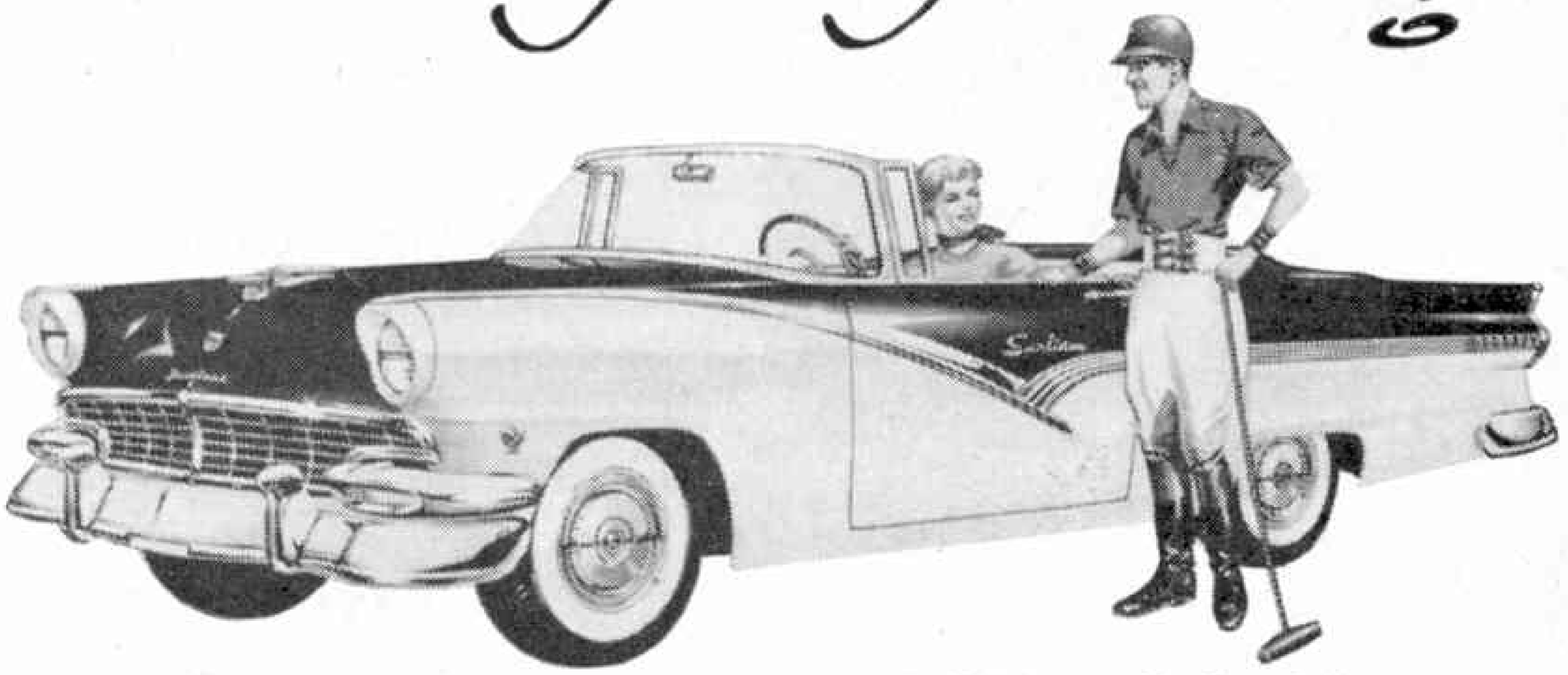
DINKY TOYS

MADE BY MECCANO LTD., LIVERPOOL 13



H-1203 Buick Century Riviera 8/11

Exciting big cars!



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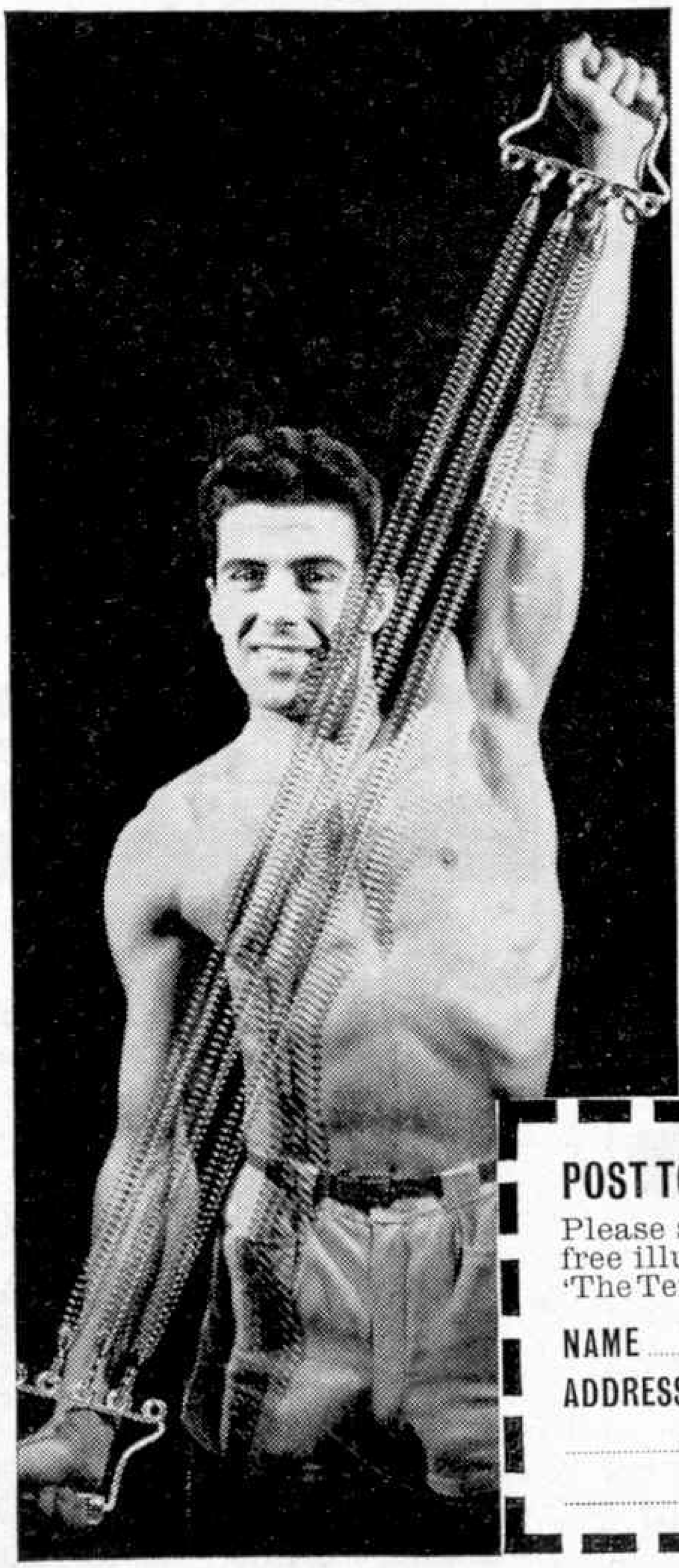
How to build a strong, healthy body



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P160

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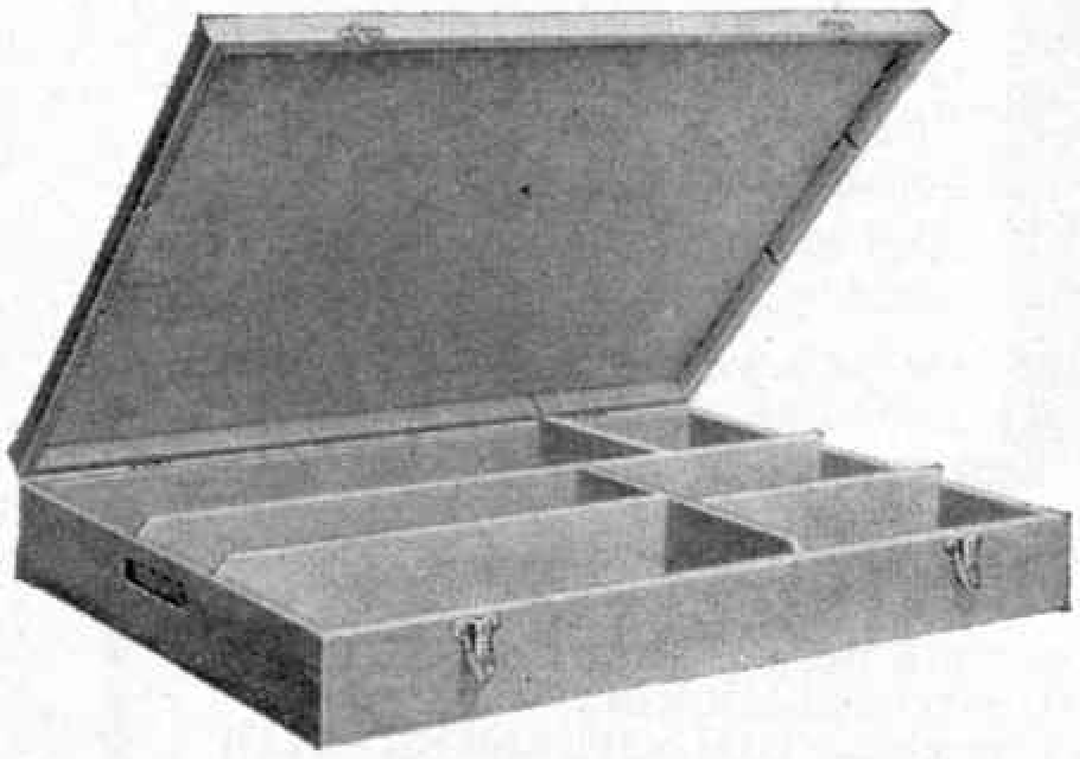
Your Smiths cycle speedometer tells you your speed accurately up to 40 m.p.h. and records distance up to 10,000 miles. Take one look at this smart Smiths cycle speedometer—and you'll know you *must* have one! You can get it at all branches of Halfords and most other good cycle stores. Ask to see one today!

. . . with its new Smiths cycle speedometer

from **SMITHS** MOTOR ACCESSORY DIVISION

OXGATE LANE, LONDON N.W.2.

Meccano Storage Box



Orderly and compact storage of Meccano parts leads to easier and speedier building of models. This special Storage Box is finished in light oak, and has 6 compartments.
Dimensions $20\frac{1}{2}$ in. x $14\frac{3}{4}$ in. x $3\frac{1}{8}$ in.

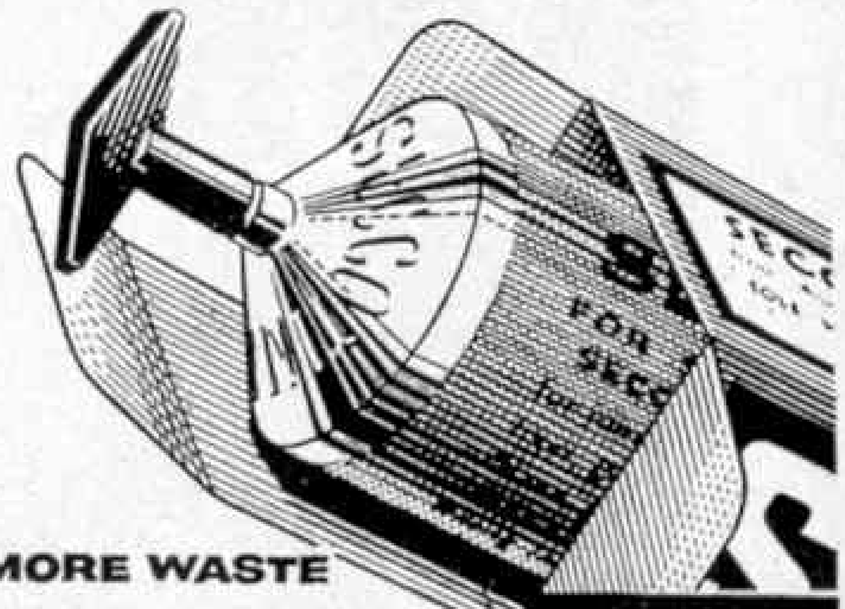
Price **£1 18 0** (inc. tax)

MECCANO

SECCOTINE
REGD

with the new pop-on seal!

AND OPEN NOZZLE FOR READY USE



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OR MESSY TUBES
- SHEER POWER
TO THE LAST DROP !

1/3 PER TUBE

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FAMOUS ACK-ACK DEFENDER

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40 mm. Anti-Aircraft Gun

182 engineered parts, including 43 that operate, make up this exciting replica of the famed Twin Forty Self-Propelled Anti-Aircraft weapon. Packed with realism and detail, the finished model looks as ready for action as the real thing. Operating parts feature the twin 40 mm. guns that elevate and rotate. 30 calibre machine guns mounted on turret, accessories door, grille door, flexible tracks and road wheels independently suspended by metal springs. Kit comes complete with 6 shells, authentic decals and 5 life-like crew members.

12/6 each

Many other exciting scale models in this Super Series of Mechanised Power can be assembled from kits priced 7/11 to 36/6

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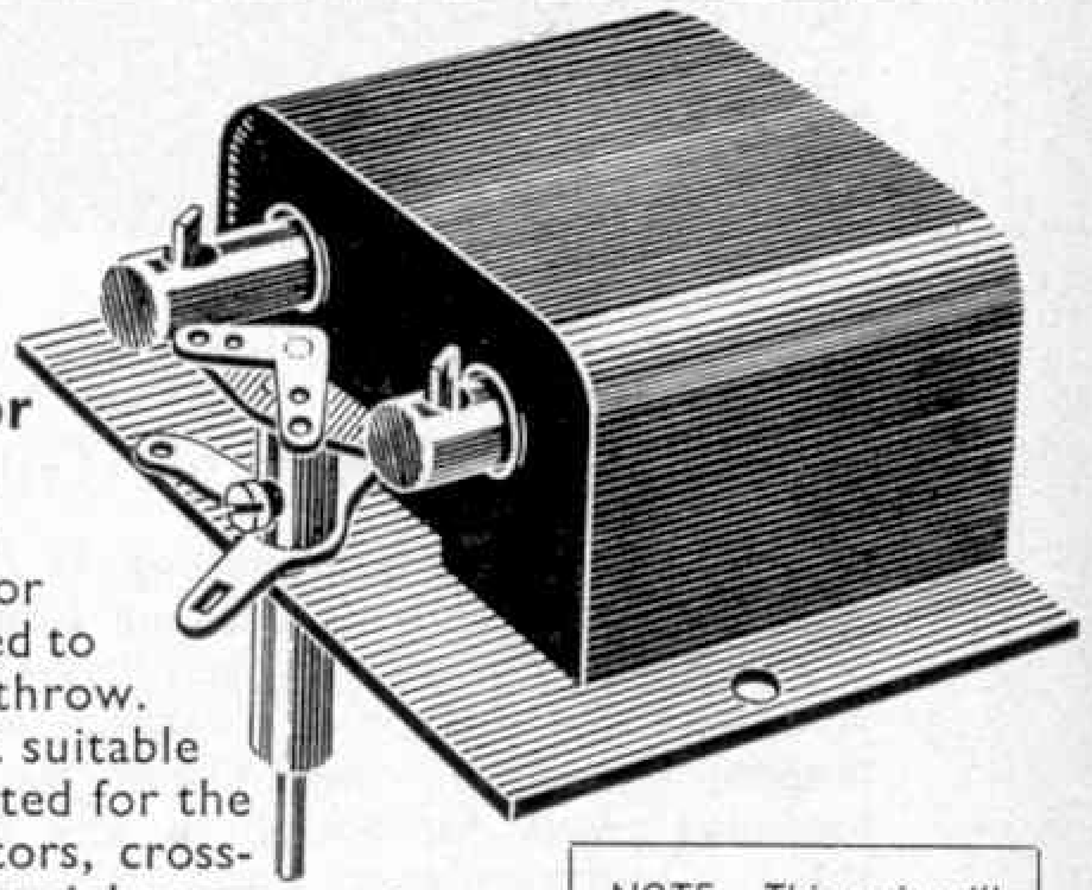
Add remote control to your enjoyment

Fix this reliable double solenoid point motor



THIS universal unit is suitable for point operation in gauge 00 or gauge 0, and may be mounted above or below the track base. Crank throws may be selected to suit almost any point blade movement up to $\frac{1}{4}$ in. throw. Working voltage 12-16 volts D.C. or 20 volts A.C. suitable for the remote control of signals and may be adapted for the animation of line side accessories such as indicators, crossing gates, etc., and for any other purposes where a straight movement up to $\frac{1}{4}$ in. is required. Reliable and of robust construction it is mounted in a non-rusting metal case with fixing holes and connecting tags for wiring to operating switch. Size of base $2\frac{1}{4}$ in. × $1\frac{3}{4}$ in., height 1 in. Price each with instructions, **18/4,** postage 9d.

NOTE. This unit will operate in any position or at any angle, and when mounted below model railway baseboard, the crankshaft can be set through a baseboard thickness up to $\frac{3}{4}$ in.

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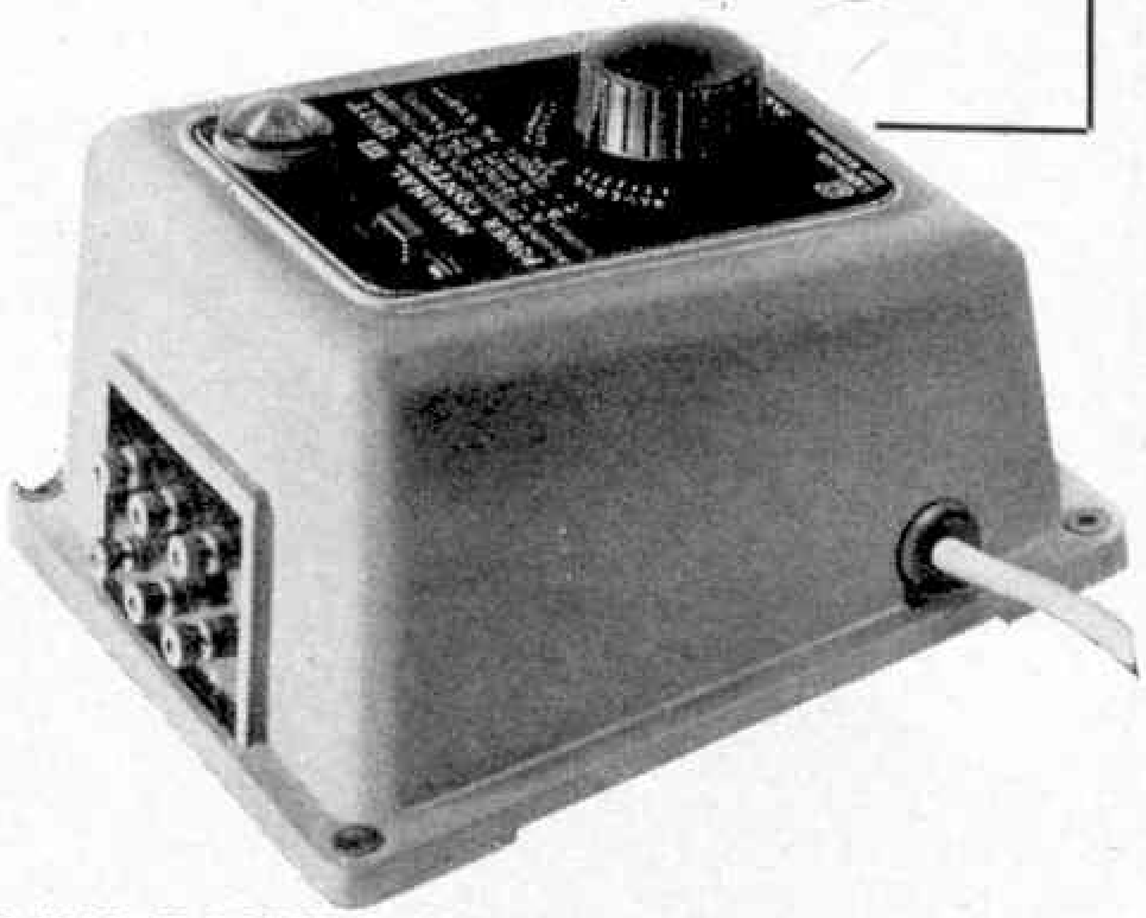
FOR LOW-VOLTAGE D.C. MOTORS

U.K. PRICE **75/-**



For use with A.C. mains supply only.
Input 230/250 volts, 50/60 cycles.

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Overall dimensions: $6\frac{7}{8}$ in. by $6\frac{3}{8}$ in. by $3\frac{7}{8}$ in.

**Pulse power on output 'A' provides ultra-slow control at the touch of a switch.*

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Short-Circuit Proof **Shock Proof**

Suitable for use on all domestic wiring systems (two-pin, three-pin, and ordinary light sockets) with COMPLETE SAFETY. Earthing is not necessary.

Built to withstand misuse; both outputs may be loaded to any extent without risk to the unit or user.

Positive voltage control. Printed circuit.

Incorporates new safety transformer of unique design, which is inherently protected.

Indestructible die-cast case, totally enclosed and rivet sealed for absolute safety.

Supply cord is moisture proof.

Double checked, inspected and tested or operational ability, insulation, and short-circuit protection.

Individually tested to withstand 5,000 volts between input and case.

The only power control unit in its class with Double Insulation.

The insulation resistance is ten times greater than that usually associated with domestic wiring installations.

This unit will operate in any position.

Built in the MECCANO tradition, ensuring safety, reliability and satisfaction.

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Next Month: "HIGHLAND TOUR BY RAIL." By R. A. H. Weight

MECCANO MAGAZINE

Editorial Office:
Binns Road
Liverpool 13
England

Vol. XLV
No. 4
April 1960

A Link Forged by the Guild

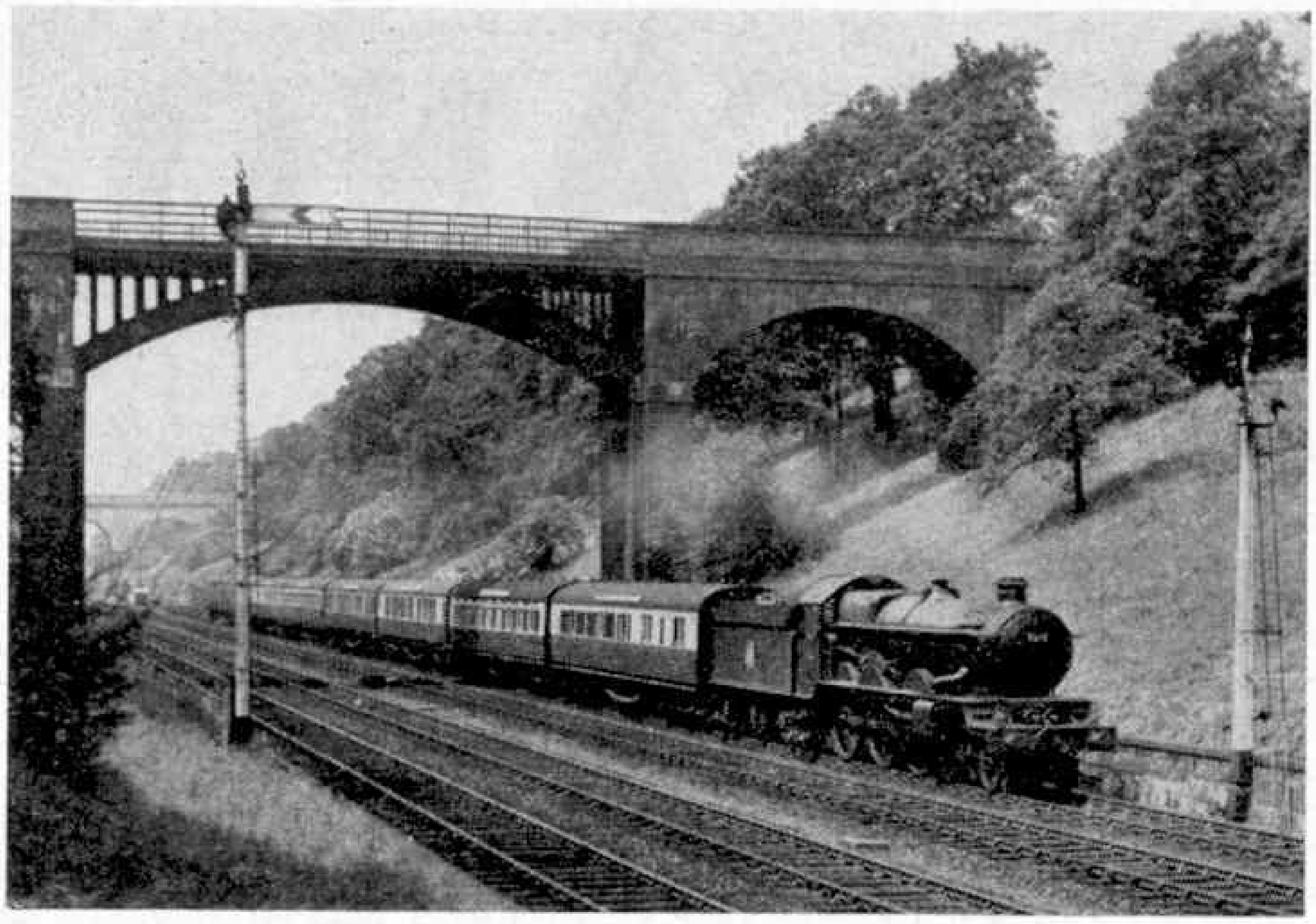
I SUPPOSE that at first glance you imagine this is an unusual photograph to find on the *Meccano Magazine* Editorial page—just a picture of a house. But it is a house that holds many memories for me, and, I am sure, for a once closely-knit band of high-spirited schoolboys who found in it a home from home. It stands in a quiet, sheltered street in leafy Lytham, the graceful township on the Fylde Coast that forms the southern (and older) half of the popular resort of Lytham St. Annes. Within a stone's throw of the house is The Green, that mile-or-more-long stretch of neatly-cropped, unfenced grassland which has been one of Lytham's richest attractions throughout the years, and where, as a boy, I played many a game of football and cricket.

On winter nights, when leisure-time pursuits were needed (and when home-work permitted), I started to take an interest in Meccano. As this interest developed, I founded, in company with five or six lads from the school I attended, a Meccano Club. And the house you see pictured here was, for a long time, our weekly meeting place.

As we grew older, left school and went our separate ways we lost touch with each other, but recently I have been able to contact once again some of those who shared with me the grand times we had there. One is now employed in transport, another is a solicitor, a third a Church of England Minister. I wonder if any of them still possess, as I do, my Meccano Guild Badge, an indissoluble link—like the house in the picture—with those youthful days.

It is not always wise to indulge in nostalgia, but there are times when it is justified, and I feel this is such an occasion. Each time I look at this picture I am reminded of the links the Meccano Guild can create, bringing with them memories to last down the years. I am sure many youngsters now taking part in Guild activities in this country and abroad will remember them with pleasure in later years.

The Editor



A W.R. express in a characteristic setting in Sonning Cutting. No. 7011 "Banbury Castle", a sister engine of No. 7020 in this article, heads the train. Photograph by M. W. Earley.

On the Footplate of the 11.15

By M. A. Timms, B.Sc.

THERE must be many readers who have wondered what it is like to travel on the footplate of a locomotive. By kind permission of British Railways, Western Region, I was granted an opportunity some time ago to do so on the 11.15 a.m. *Merchant Venturer* from Paddington to Bristol, a fast train with a booked speed of over a mile a minute between London and Bath.

On arrival at the Motive Power Inspector's office at Paddington Station, I was greeted by Inspector Jenkins, who was to be my guide throughout the trip. Shortly afterwards we made our way along number 1 platform, under the great clock, and past the neat chocolate-and-cream coaches of the train with whose crew I was to travel.

At the head of the train, resplendent in green paint and polished brass, stood the locomotive—No. 7020 *Gloucester Castle*, a four-cylinder engine of the 4–6–0 wheel arrangement, with 6 ft. 8½ in. driving wheels, and working at a boiler pressure of 225 lb. per sq. inch. This engine, which has been fitted with improved draughting arrangements, is one of the same class as No. 5006 *Tregenna Castle* the engine that created a world speed record on the fabulous *Cheltenham Flyer* in pre-war days.

I climbed on board and was greeted by Driver Gleed and Fireman Lewis, of Old Oak Common shed, after which Inspector Jenkins showed me a place in the left-hand front corner of the cab where I could stand without hindering anyone. Then, almost before I realised it, the green flag waved, the whistle blew, and with a slight slip of the engine's big driving wheels, we were away. Soon *Gloucester Castle* was accelerating its light 315-ton train of nine coaches over the points and crossings outside Paddington.

Out of the narrow cab windows and along the boiler I watched the features which are so familiar to those who travel regularly into Brunel's great terminus at Paddington; the carriage flyover near Ladbroke Grove; Old Oak East with its sharply curved burrowing connection to the West London line; Old Oak West where the main line to Birmingham left us; Acton with its steep-sided cutting and diesel-electric shunters; all these passed us as we slowly gathered speed. By the time we reached Ealing we were travelling at 65 m.p.h.; Southall, nine miles out, was reached in 12¼ minutes, and soon we were roaring across the flat land between Hayes and West Drayton at a steady seventy.

We passed Slough, 18½ miles from Paddington in 21¼ minutes, and we were approaching Taplow when Inspector

Jenkins came across to my side of the cab and said in my ear, above the noise of the engine: "He's easing her a bit now so that we don't get too close behind the 11.5." This train, for Gloucester and Cheltenham, was immediately ahead of us on the same track, and to avoid signal checks the regulator was closed slightly and speed dropped a little.

We now settled down to a steady 68 m.p.h. which, apart from a track-relaying slack, we were to maintain almost all the way to Swindon. After passing through Sonning Cutting, with its steep sides and high bridges, we entered the outskirts of Reading, where the electrified Southern Region line from Waterloo could be seen on our left. With a scream on her whistle, No. 7020 swept round the curve of No. 4 platform at 68 m.p.h., having taken just 37 minutes for the 36 miles from the start. Immediately afterwards the West of England main line swung away to our left, and the engine rocked and swayed slightly as we clattered over the complicated network of points and crossings that must be a signalman's nightmare on a summer Saturday. Ahead of us, travelling slowly on the down relief line, could be seen the 11.5, having just restarted from its stop at Reading, and as we overtook it Driver Gleed gave a blast on the whistle, and he and Fireman Lewis exchanged greetings with the other crew.

Tilehurst station, 38¾ miles out, was passed in just over 39¼ minutes; Pangbourne, 41½ miles in 42 minutes, and all seemed set for attaining "even time" by Didcot when, through the narrow windows, I saw the familar yellow warning board with the number 15 above it, indicating that a 15 m.p.h. speed restriction lay ahead, and in one of the worst possible places too, as we were due to pick up water at Goring troughs, and a reasonably high speed was needed. By careful manipulation of the brakes, however, the full complement of water was taken in, and the speed limit exactly observed, and immediately afterwards the crew set out to regain lost time.

Driver Gleed and Fireman Lewis at Bristol alongside No. 7020 "Gloucester Castle", on which the author rode.

The important junction of Didcot, where the line from Southampton, Winchester and Newbury comes in from the South, and the old main line to Oxford and the Midlands diverges to the North, lies 53¼ miles from Paddington. By the time we reached Didcot our train had again been accelerated to 68 m.p.h., and we passed through the station in 56¼ minutes from Paddington.

With Swindon, the next big town, nearly twenty-four miles

No. 7019 "Fowey Castle" at Paddington with the up "Merchant Venturer" displays the later type of headboard used for this train. Photograph by David Sellman.

ahead, we again settled down to a steady 68 m.p.h., over open, rolling countryside. The sensation of speed on the footplate is most deceptive—one appears to be travelling much more slowly than is actually the case. The riding was remarkably smooth; the combination of a four-cylinder engine with easy working gave me a trip which, apart from the occasional jolt as we went over points or crossings, was almost as smooth as riding in a carriage. Driver Gleed seldom used more than half regulator, and apart from starting, the cut-off was kept almost constant at 18 per cent, which means that for every revolution of the wheels steam was cut off after each piston had completed 18 per cent. of its stroke, and the rest of the work done by expansion.

For his part, Fireman Lewis kept the boiler pressure steady at about 215–220 lb. per sq. inch, just sufficiently below the red mark on the pressure gauge to prevent the engine from blowing off. He was seldom, if ever, idle; when he was not feeding the fire he was damping down the coal dust or sweeping the cab floor, only to return to that rhythmic, scientific and, to him, almost effortless shovelling which, with a steam train, is so essential to good timekeeping.

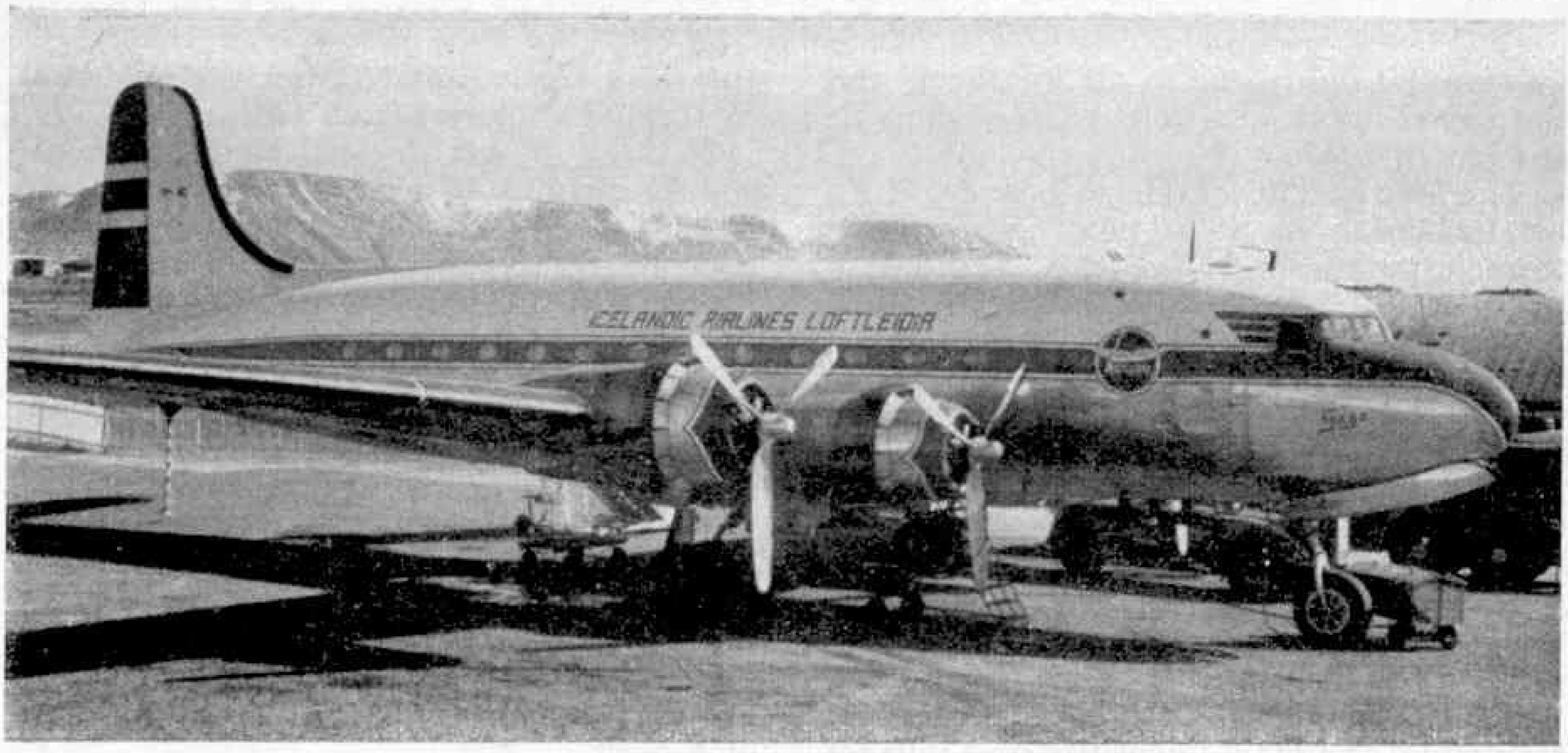
As we approached Swindon, speed was reduced slightly, presumably to avoid running too close behind the down *Pembroke Coast Express*, and we passed through the station at 12.34¼. Prolonged running at between 65 and 68 m.p.h. had now brought us back to within one minute of "even time". Another blast on the whistle as we passed the locomotive works, where so many fine engines, including our own, first saw the light of day, and we were away into the open countryside again. By the time we reached Wootton Bassett, 83 miles out, we were within half a minute of "even time", and, as the South Wales main line swung away to our right, we were left with an absolutely clear road in which to regain lost time. With only "first port" on the regulator, and 18 per cent. cut-off, the speed climbed higher and higher as we descended the incline, with a final short burst at just under eighty-five as we approached Dauntsey. After this, the gradient levelled out, and speed dropped; the engine was eased and Chippenham station, 94 miles from Paddington, was passed in 92 minutes at 70 m.p.h.

Here No. 7025 "Sudeley Castle", carrying the earlier type of headboard, has a clear road through Bathampton with the 11.15 a.m. down "Merchant Venturer". Photograph by R. E. Toop.

From here on the running was fairly easy, since we had time in hand, and further checks were unlikely. We reached 70 m.p.h. on the 1 in 100 descent through Box Tunnel; it was a most eerie experience rushing headlong through the darkness with the light from the fire flickering on the driver's face as he sat staring intently into the void ahead.

With steam shut off we drifted gently through the cuttings and around the hillside skirting the beautiful old city of Bath, with its whitestone Georgian buildings, until we came to rest in the station, with the engine standing almost immediately above the River Avon. We were dead on time, having left Paddington one minute late, and had covered the 106¾ miles in 105 minutes at an average speed, start-to-stop, of 61 m.p.h. Immediately we stopped, Driver Gleed climbed out and examined the engine, feeling the big-ends and other moving parts to see if they were hot, but nothing was amiss.

We left Bath one minute late, but since the train is allowed seventeen minutes for the remaining 11½ miles to Bristol, no really high speed running was necessary, and we arrived at Bristol half a minute early.



"Saga", the DC-4 in which the author flew to Iceland. It is owned by Loftleidir, one of the two very efficient Icelandic airlines.

Flying in Iceland

By John W. R. Taylor

WHEN we took off from Renfrew Airport in Scotland and headed west a few months ago, most of my fellow-travellers were on their way to America. The aircraft in which we flew was no 600-m.p.h. jet-liner, but a sturdy old DC-4 Skymaster of Loftleidir Icelandic Airlines, and there were two very good reasons for this.

For one thing, this company offers the cheapest air fare between London and New York, which is more important than mere speed to many people. Secondly, its aircraft call in at Reykjavik, the capital of Iceland, on their way over the Atlantic, so that passengers with a day or two to spare are able to take a look at one of the most interesting countries in the world.

Often when one travels the least expensive way by air the result is pretty uncomfortable; but this is certainly not the case on Loftleidir's services. The seats were roomy and comfortable, our coats were taken away by two charming stewardesses and hung in a cloakroom at the rear of the cabin, and we were served with a really first-class meal *en route*. Add to this the fact that Icelandic pilots are among the most skilful in the air, with an almost unrivalled safety record, and it is easy to see why I enjoyed my journey.

In the days that followed my arrival at Reykjavik, I learned why Icelandic pilots have to be so good. Their country has some of the worst flying weather in the world, with a great deal of fog and low cloud. It also has many mountains up to 6,000 feet high, so that a bad pilot would soon find himself in trouble.

Despite these difficulties—or perhaps because of them—Iceland is the most airminded nation in the world. It has no railways and its roads are simply graded earth tracks, often with stones as big as a fist piled up in ridges along each side and down the middle. Until a few years ago the normal method of transport was by means of the tough little ponies that are seen everywhere in the country. The arrival of the jeep in World War II gave the farmers a vehicle that would stand up to the rugged conditions, but flying is by far the quickest and most comfortable method of getting from place to place.

Brave Life-saver

As a result, although Iceland is not much bigger than Ireland, with a total population of only 170,000, of which 70,000 live in the capital, it has two fine, large airlines and a considerable number of privately-owned aircraft. One of the latter is flown by the bravest man I have ever met—Bjorn Palsson, who operates a one-man air ambulance service with a tiny

Cessna 180 lightplane in all weathers, and has saved many hundreds of lives since he started in 1947.

The first airline, Flugfelag Islands, H.F., or Icelandair as it is now known, was formed ten years before this, and began operations in 1938 with a single Waco four-seat seaplane. Its main service linked Reykjavik with the second biggest city of Akureyri, in the north, cutting the journey time from twelve hours by bus to only one and a half hours, and it did well until the little aircraft sank at its moorings during a gale in February 1940.

Undaunted by this setback, the company bought more aircraft, including two Dragon Rapides and a Catalina flying-boat, which it converted into a 22-seater for serving all the little townships and villages around the coast. Other types followed, including the inevitable DC-3 Dakotas, and then some DC-4s, with which Icelandair operated its international services to Scandinavia and Britain until it bought its present Viscounts in 1957.

Loftleidir, the company by which I travelled to and from Iceland, was formed in 1944. The founders were three young pilots who had recently returned home after several years of training and flying in Canada, and who are now the company's managing director, operations manager and chief pilot.

Like Icelandair, they had no difficulty in finding people willing to provide money to finance their enterprise and were soon operating a little Stinson seaplane on services to the fishing towns on the west coast. Later the same year they bought a second aircraft, which they used mainly as a spotter for the Icelandic herring fleet, searching for the fish on which the country depends for most of its livelihood.

Within three years, Grumman amphibian, DC-3 and Catalina aircraft were added to the Loftleidir fleet, and in 1947 the company began its scheduled overseas services with the DC-4 *Hekla*, named after the mightiest of Iceland's many active volcanoes.

In 1952, it was decided that Icelandair should operate all internal services in the homeland and Loftleidir began to concentrate on expansion of its international routes. Bearing in mind that the Icelanders have always been great travellers, and discovered North America in their wooden long boats hundreds of years before Columbus, it is not surprising that the new services included a weekly transatlantic flight from Europe to the United States. To-day this has grown to nine flights a week, the demand for seats being so great that the DC-4s are being replaced by bigger, pressurised DC-6Bs, which many people consider to be the finest airliners ever built.

Livestock sent by air

Now, as a result of the enterprise of Icelandair and Loftleidir, Iceland has two thriving and extremely efficient airlines, carrying between them well over 100,000 passengers each year—equivalent to more than half the country's population. Many charter flights are made in addition to scheduled services, and the farmers in some regions rely on Icelandair not only as a "bus service", but as a means of carrying in all their equipment and supplies and flying out their produce and livestock for market.

Both airlines also fly often to Greenland, to carry sightseers and to ferry supplies and equipment for explorers and scientists

A winter scene at Akureyri, Northern Iceland. Passengers for one of Icelandair's DC-3 airliners arriving at the airport from nearby districts in a car specially built for operation in heavy snow.

The volcanic hot-spring regions of Iceland are a great attraction to tourists. Here is an impressive natural fountain of boiling water at Geysir.

on expeditions to this land of glaciers and Eskimos.

Iceland itself has many glaciers, including Vatnajokull which, with an area of 3,280 square miles, is the largest in Europe. A few years ago, a U.S.A.F. Dakota rescue 'plane landed on this huge icefield in an attempt to help the crew of a crashed aircraft. It was unable to take off again at such a high altitude and was abandoned, both crews being evacuated overland.

Towed off Glacier

Some months later the directors of Loftleidir decided to try to salvage the Dakota. They went up to Vatnajokull, dug the machine out and towed it off the glacier with caterpillar tractors. When it was clear of the ice the rescue party built an airstrip, and flew the aircraft back to Reykjavik where they overhauled it and sold it at a handsome profit.

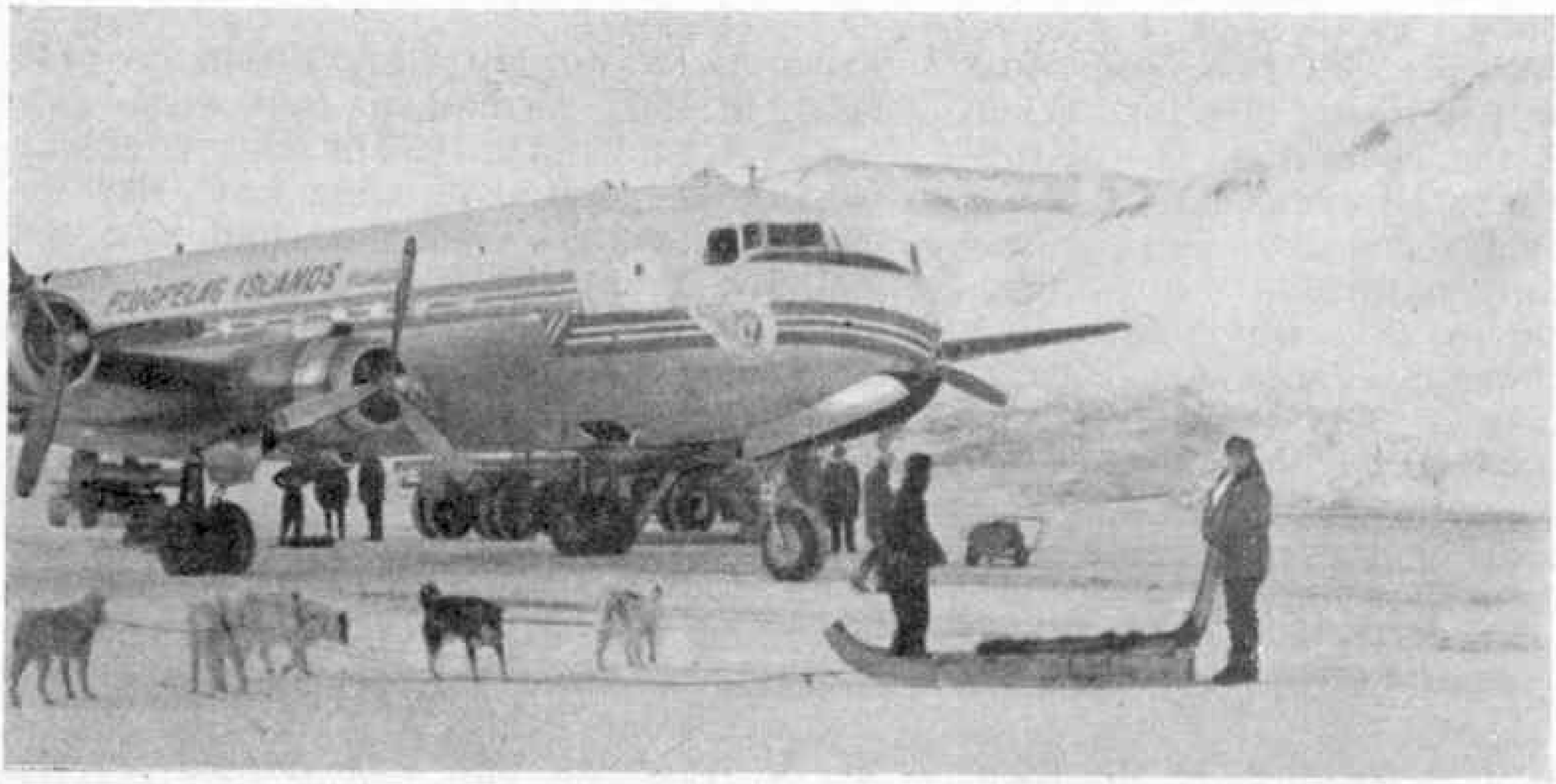
This story is typical of the hard-working enterprise and enthusiasm of the people who run Iceland's airlines; it reflects the fact that the very nature of the country has bred a strong independence in the people who live there.

The main industry is fishing, yet the waters around Iceland are among the most stormy and dangerous in the world. The second industry is farming, yet much of the country is covered by icefields and lava deserts. Living is difficult, especially in winter when there are only four hours of daylight, because the Arctic Circle runs just north of the country. Yet, despite its nearness to the frozen north, Iceland grows just about everything, even tropical fruits such as bananas.

I learned how when I drove over the mountains to the east of Reykjavik to the township of Hveragerdi. This is one of the famous volcanic hot-spring regions, and from this area boiling water is piped many miles to heat the homes and business houses of the capital, making coal fires unnecessary. The same water is used to warm the greenhouses in which the bananas and other crops are grown, and to fill the warm, outdoor swimming pools in which I went swimming each morning before breakfast.

Now you understand why I said earlier that Iceland is one of the most interesting places in the world. There is much more to see, such as

(Continued on page 214)



A Douglas Skymaster of Icelandair at a remote place in Eastern Greenland.

Road and Track

By Peter Lewis

FOR ten years, twenty-six year old John Surtees of Bickley, Kent, has been stripping, tuning and racing motor-cycles. In the last four years this brilliant rider has won five world titles. Not unnaturally, the enthusiastic followers of motor-racing are wondering what sort of a season Surtees will have, in 1960, on four wheels. My own view is that he is going to take things easy in this last season of the current G.P. formula, and run himself in, as it were.

On the other hand, those of us who were fortunate enough to see Surtees in action at Goodwood, before the commencement of the season, with a Formula I Aston-Martin and a D.B.R./I sports car were tremendously impressed. On at least two occasions he took the Formula I car round in 1 minute 29 seconds, only two-tenths of a second slower than the all-out circuit record established jointly by Hawthorn (Ferrari) and Moss (Cooper) at the 1958 Easter Meeting. When Surtees sat in the cockpit of the Aston-Martin he immediately became part of the car and it soon became obvious that here was an "absolute natural".

People have asked why, after his Goodwood outing, he did not sign a contract with Aston-Martin. The answer is quite simple: he is committed to motor-cycle racing for 1960 with M. V. Augusta and, just as important, he does not intend to be rushed into signing on with a works F.I. or sports car team. He will race on four wheels as and when he can, but not as a regular works driver.

If John Surtees becomes a top-flight driver in the fullness of time he will not be the first man to switch with success from two wheels to four, and he can look for encouragement to such great drivers as Tazio Nuvolari, Achille Varzi, Alberto Ascari and Britain's own pre-war ace, the incredible Freddie Dixon. They all started on two wheels.

His first race was at the age of seventeen, on a Triumph 500 costing £32, and his first win was at Brands Hatch at the end of the season on a Vincent Grey Flash. A year later, in 1952, he had his first works ride (on an A.J.S.) and in 1953 he started making a name for himself in a big way. By the end of the 1954 season he had won the Pinhard Trophy (and 56 out of 71 races entered) for the most meritorious performance that season in any form of motor-cycle sport.

Peter Harper and his co-driver, B.B.C. commentator Raymond Baxter, arriving at the control between Touet and the Gorges Du Cians during the Mountain Circuit test of the Monte Carlo Rally.

Star-studded Season

Surtees continued his success story in 1955 by winning 65 out of 72 races entered, including the Ulster G.P. on a 250 cc. N.S.U.—his first victory in a World Championship event. In 1956 he joined M. V. Augusta and has ridden for the

In nine seasons of racing, Surtees (right) has reached the top on two wheels. How will he fare on four?

Italian marque ever since. It was a remarkable season, star-studded with victories on a 500 cc. M. V. Augusta, but one which culminated in Surtees breaking his arm in the German G.P. The injury spoiled his chances in 1957 and resulted in a poor season.

Not so 1958 and 1959; each year he won the Double T.T. *and* the Double World Title. His greatest year was 1959 when he won every race in which he started. John Surtees has certainly come a long way since, at the age of 15, he left Ashburton School, Croydon, where, incidentally, he was a good all-rounder and played football for the First Eleven. There is no time for hobbies or sports now, for non-smoking, non-drinking Surtees spends every minute of his spare time with his beloved 'bikes. Like World Champion Jack Brabham, he is a tuning wizard.

Motor-sport on four wheels will be all the better for having John Surtees on the grid this season—if only in a few races—and I hope that in 1961, when the new Formula comes into force, we shall see him in a works team.

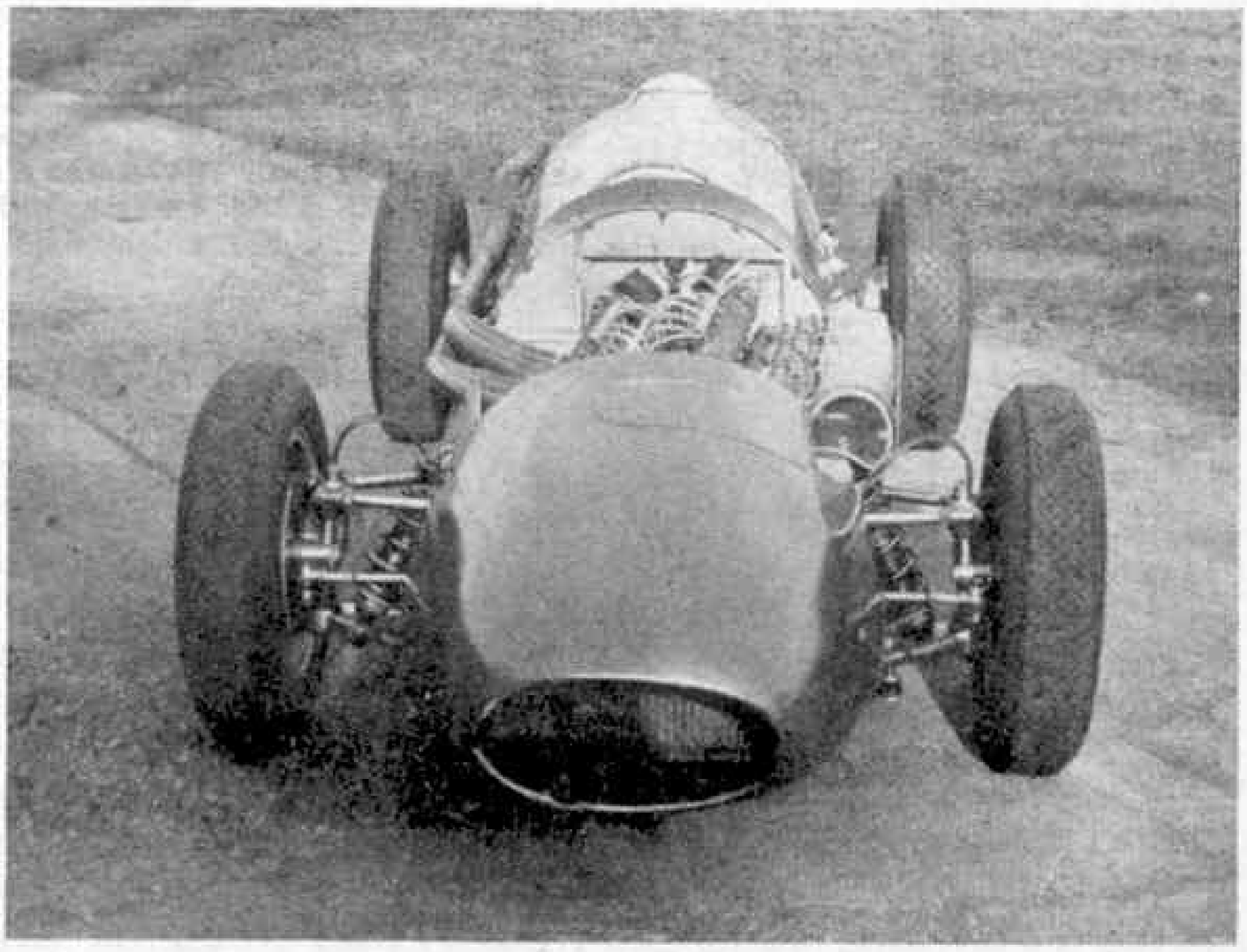
Aston-Martin for 1960

A week or so ago it was announced that the very promising Scottish driver, Jim Clarke, of the Border Reivers team, will drive for Aston-Martin this year. Roy Salvadori, Maurice Trintignant and Clarke will make a formidable works trio, particularly as Mr. David Brown's F.I. car is going to be lighter and faster than in 1959.

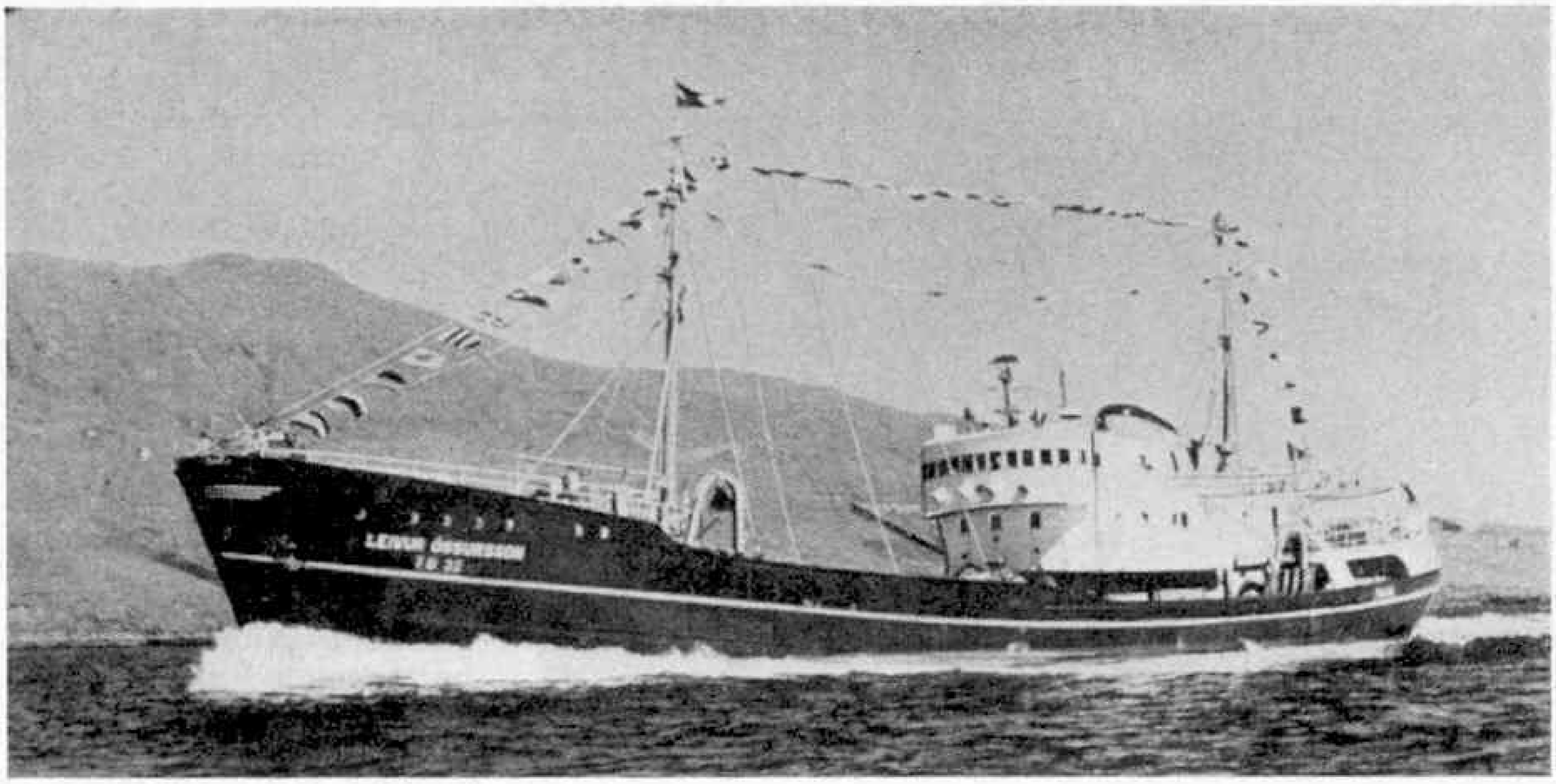
Basically, the F.I. car (D.B.R.4/250) was developed as a result of sports/racing experience, and in particular from lessons learned with the D.B.R.I./300. The F.I. car has an aluminium cylinder block and crankcase, with a six-cylinder twin-overhead camshaft engine of 2,493 cc., slightly offset in the frame. There are two plugs per cylinder and carburation is by three double-choke Italian Weber carburettors. There is a close-ratio five-speed gearbox, operated by a right-hand gearchange lever. Girling disc brakes, mounted outboard, are used front and rear with Ferodo pads, and the tyres—as usual with the Feltham equipe—are Avon.

One thing is certain for 1960. The three Feltham cars, with the enthusiastic Mr. David Brown in the background, will be making an all-out effort for the World Manufacturers' Championship. It would be a fitting follow-up to the Sports Car Championship that Astons won last year.

What a tough Monte Carlo Rally this year–with snow, ice, rain, slush and fog, and what a fine perform- (*Continued on page 214*)



The Aston Martin DBR4/250 has the engine angled across the frame. Twin exhaust pipes take exhaust gases from six ports by means of a pair of three-branch pipes.



Up-to-the-Minute Fishing

By J. Mannering

FISHING is no longer the straightforward, but chancy, affair of hauling a trawl hopefully over the sea bed practised by the stalwart inhabitants of our fishing centres in the days of the deep-sea sailing trawlers.

Science is fast dispelling the need for muscle and mother wit in the ancient art of bringing home the herring and the crews of the old Yarmouth or Brixham trawlers would probably be unable to understand much of the equipment carried on the modern vessels.

Denmark is probably one of the most advanced countries of Europe in the development of the fishing industry, and because of this it was not out of place that the third International Fisheries Trade Fair was held last autumn at Copenhagen. But deep-sea fishing, by its very nature, is a matter of international concern and all nations, particularly in Europe, are going forward together in sharing their knowledge of the latest methods which ensure plentiful and economic catches.

The picture at the head of the page shows the "Leivur Ossursson", a modern ocean-going trawler which works from the Faroe Islands.

Nuclear Power?

The Food and Agriculture Organisation of the United Nations keeps a watchful eye on the fisherman's needs, and recently held a World Fishing Boat congress in Rome at which representatives from many nations were able to exchange information and ideas.

The Asiatic countries have, to some extent, lagged behind Europe, and many still rely to a great extent on the primitive methods that have served them for countless generations. An outstanding exception is Japan, who, with her quickly-growing population, is alive to the need for modern vessels equipped with all the latest aids to fishing.

An American scientific organisation is about to investigate the possibility of employing nuclear power to set up vertical currents in deep-sea areas, where lack of movement prevents the rich nutrients of the sea bed from rising to the sunlit waters of the surface. There, of course, they would support animal life and thus provide food for fish. If this could be achieved, large areas of the ocean now containing few fish might well produce an abundance.

An example of what is going on all over Europe in an endeavour to win, cheaply safely and consistently, a full harvest from the sea is the building for the Faroes Government of the ocean-going trawler *Leivur Ossursson*. She recently began fishing off Greenland, and with every modern device, including echo sounders to locate the fish unusually powerful and adaptable

A modern inflatable life raft, as now carried on deep-sea trawlers.

engines and winch gear, and comfortable accommodation which will enable her crew to fight fatigue in face of the arduous conditions of winter fishing in high latitudes, she is expected to bring back heavy catches.

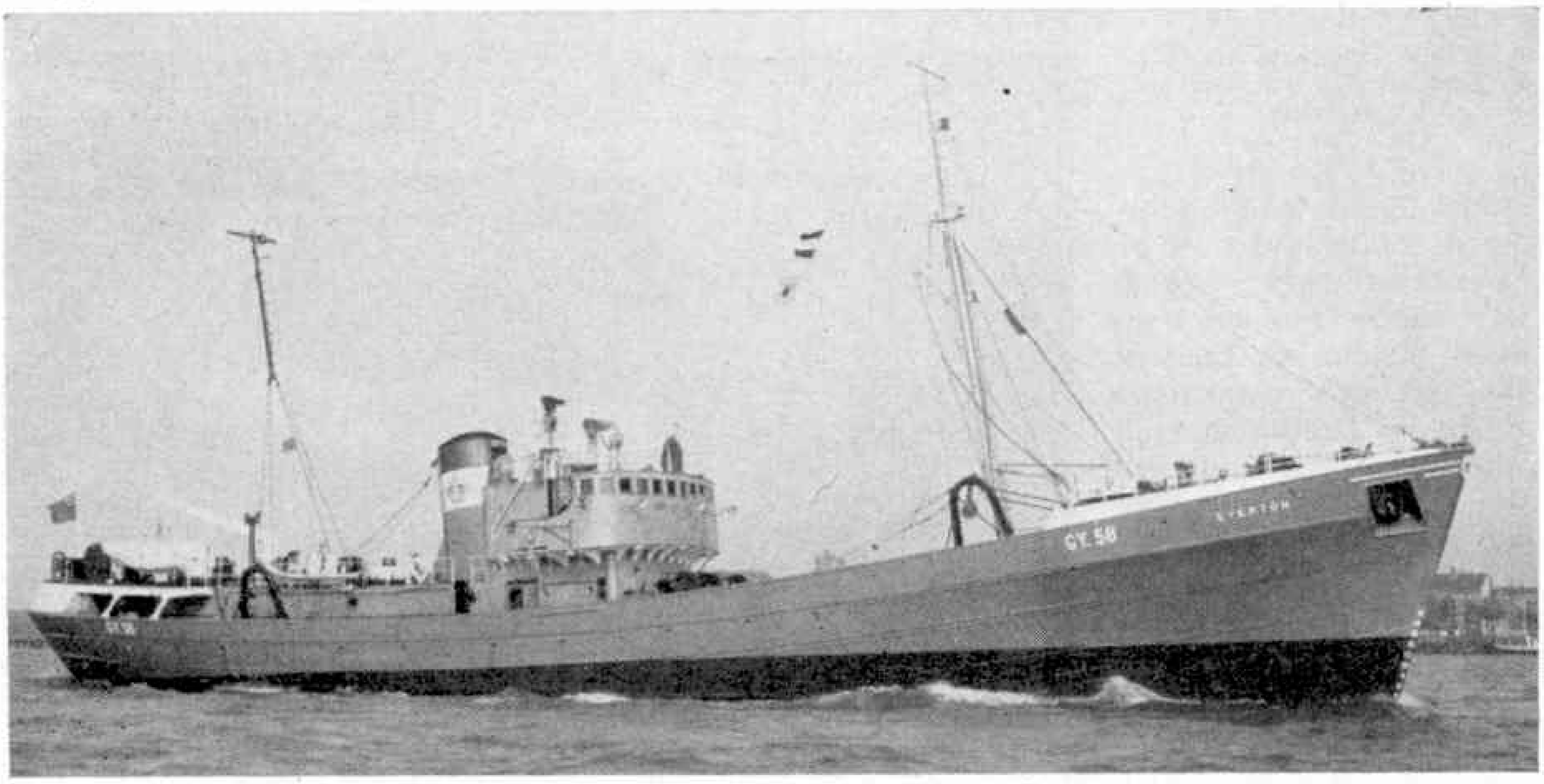
The First of Three

Designed by Mr. Knud E. Hansen, one of Scandinavia's leading naval architects, this vessel is a fine example of the modern deep-sea trawler, and is the first of three similar 600-ton trawlers to be based on the Faroes. Not only does she carry all the latest equipment for catching fish; she is also equipped with plant to extract the liver oil from the fish and to manufacture fish meal from fish offal. This fish meal will be dried and milled, then packed in bags which will be ready for unloading when the ship returns to harbour. The *Leivur Ossursson* has already called in at Grimsby where she attracted considerable attention.

"Saxon Venture". A "Middle Water" trawler, 105 feet long and built by Richard Dunston Ltd. at Thorne, she fishes mostly in the North Sea.

The use of the echo sounder is the most recent and important development in deep-sea fishing. Coming on the scene at the same time as the extension of territorial waters, and the need for steaming long distances to reach suitable fishing grounds, the echo sounder is being used with increased success in conjunction with the midwater trawl. This is a method of trawling whereby the trawl, instead of being hauled along the sea bed and catching the fish swimming within a few feet of the bottom, is towed, while the trawler is in deep water, at a depth at which it is estimated there will be shoals of fish on the move. The use of the echo sounder is thus invaluable, for with a horizontal sounder it is possible to locate fish at a range of 2,000 yards all round the vessel, down to a depth of about 500 feet. A vertical finder enables the exact depth at which the shoal is swimming to be ascertained as the trawler passes over them, while a third instrument on the head rope of the trawl, connected by cable to a recorder on the ship's bridge, enables the skipper to see the fish entering the trawl. At the same time, he obtains a record of the opening of the trawl mouth, and the depth from the bottom at which the trawl is towing.

This is a simple explanation of the method employed and, as it is being developed by several firms producing electronic equipment, there will doubtless be swift and startling improvements. A



"Everton", a modern deep-sea trawler. Such vessels will go as far as Iceland or Greenland for their fishing. She was built by Cochrane and Sons Ltd., Selby.

number of fishing boats are already fitted with this equipment, and it will help solve the problem arising from the disputes over territorial fishing rights.

Science is also coming to the fisherman's aid by providing man-made fibres such as nylon and Terylene. These make far tougher and stronger nets than the old natural manilla or hemp fibres. The lozenge-shaped pieces of cork which boys still collect on the beaches are giving way to plastic floats, and the picturesque glass balls which, as trophies of beachcombing, were hung in the windows by seaside landladies have also disappeared in favour of metal or plastic balls which, more efficiently and more economically, perform the same purpose of floating the head of the nets.

Outboard Motors

Although by now the diesel engine has conquered all before it in the maritime world, and the sight of a steam drifter or trawler, with smoke pouring from her long funnel as she steams out of port for the fishing grounds, is becoming rarer every year we are witnessing now, in Europe, the growing popularity of the bigger-powered outboard motor. Already much used in America, they are now being eagerly bought by inshore fishermen in many countries, especially in Scandinavia. Motors up to twenty or thirty horse power are employed. These allow the fisherman to cover larger areas of his fishing ground, and to arrive home to market the fish in better time than when he relied on oars and sail

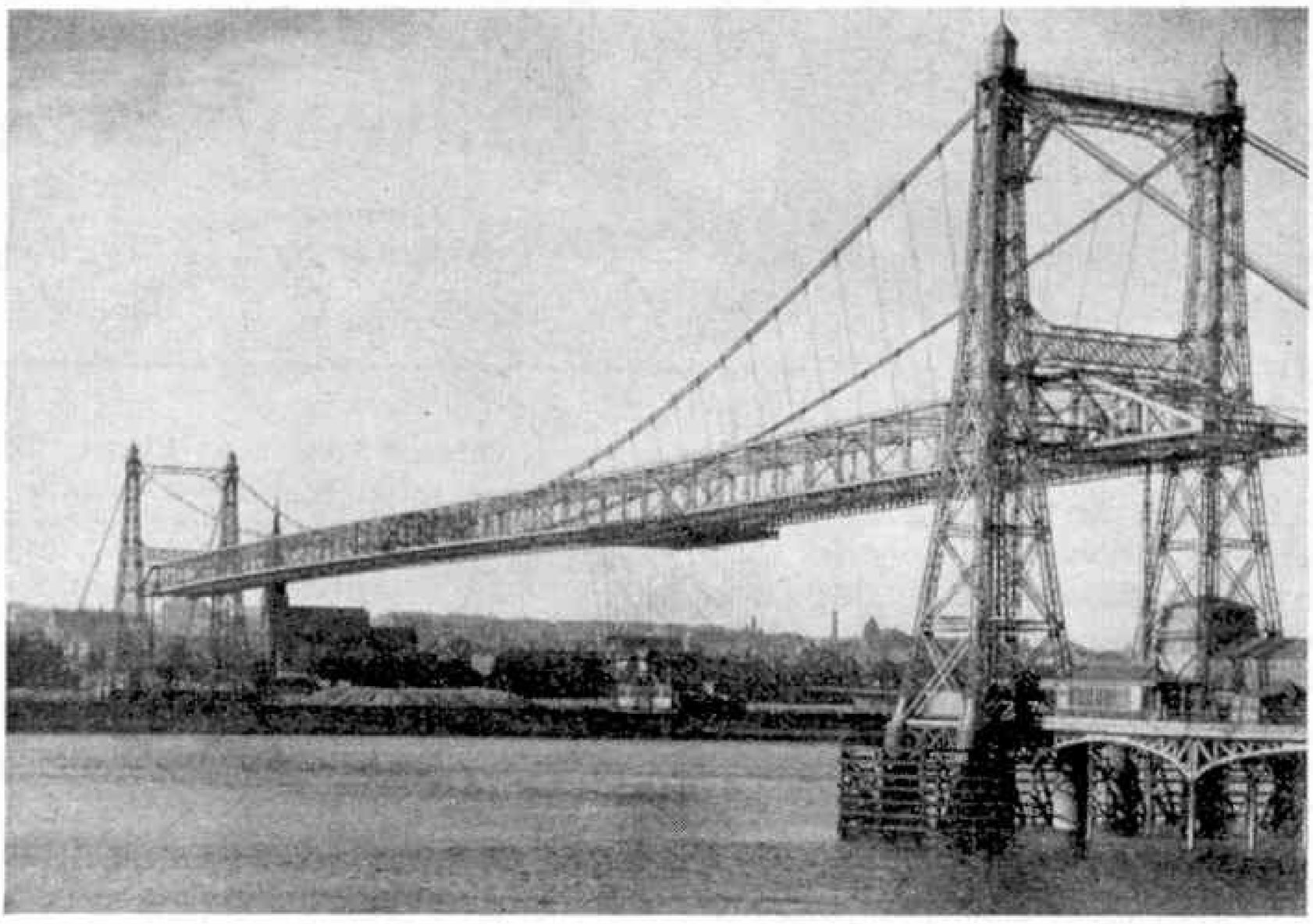
Another comparatively recent aid which science has given the fishermen is the inflatable rubber life raft. Developed during the war to save the lives of the crews of aircraft and ships lost in action, the rubber life raft is now obligatory on the fishing vessels of many nations. From a life-saving point of view it is a great improvement on the old ship's boat which was so often difficult to launch in an emergency, and was not always sufficiently seaworthy in rough weather.

Cover Gives Protection

The rafts, which are self inflating, are virtually unsinkable and carry lights, signals, food and medical supplies. The bigger ones have a cover over them which gives much-needed protection to the wrecked seamen, for it is exposure after an accident which can be the greatest cause of loss of life at sea.

The fisherman's life has indeed been changed, and for the better, by the ideas and equipment which science has provided over the last 30 years. Governments of all maritime countries are taking an increasing interest in the state of their fishing industries, and research ships are constantly studying the life history of the valuable fish, whose movements and migratory habits are still only partly understood.

The sea holds untold wealth in food for man and animals and in fertilizers for the soil. In harvesting this food the fishermen still have to endure long winter nights, gales and ice. But their work is being made not only less arduous but safer by the efforts of the scientist.



Widnes Transporter Bridge

By L. Bruce Mayne

TRANSPORTER bridges were never as popular in Britain as they were on the Continent and elsewhere. In fact only three were built in this country, just after the turn of the century, at Widnes, Newport and Middlesbrough respectively. An illustrated account of the Newport Bridge appeared in the *M.M.* for June last year.

The Widnes–Runcorn transporter, spanning the River Mersey and the Manchester Ship Canal, is not only the oldest of the three transporter bridges, but is also the longest single-span road-traffic bridge in the country. It links the A 568 road on the Lancashire side with the A 533 on the Cheshire side. Its days are numbered, for it will be dismantled when the new £2 million high-level bridge that is being built alongside it is completed.

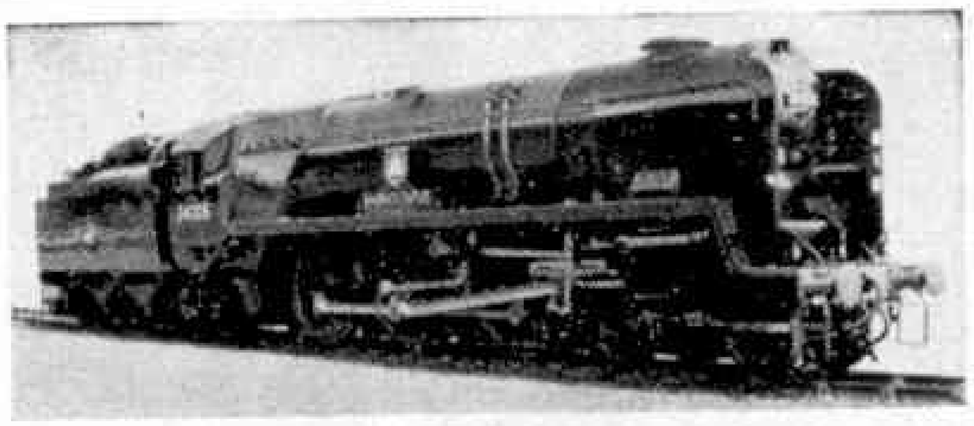
The bridge was erected for the Widnes and Runcorn Bridge Company by the Arrol Bridge and Roof Company, of Glasgow, from the designs of J. J. Webster and J. T. Wood. It was completed in 1905, at a cost of £130,000 and went into service the same year. In 1911, by the Widnes and Runcorn Bridge Transfer Act, it became the charge of the Widnes Corporation. Extensive alterations were made, mainly to the method of propulsion, and services were resumed under the ownership of the local authority in 1913.

A transporter bridge is, in effect, a ferry. A platform is slung from a carriage which moves along a railway on the high girder connecting the towers on each bank. One advantage of this kind of bridge is that where a high-level structure is necessary because of river or canal traffic, it is cheaper to construct than one with a high-level roadway and sloping approaches, with interruption to waterway movements at a minimum.

The delay to passengers because of the wait for the next crossing was considered a minor detail fifty years ago. Today, transporter bridges are obsolescent because of the increased traffic on our roads and the universal fight against time.

The transporter is built on the suspension principle and is a steel structure with masonry anchorages and approaches. The towers are 190 ft. high and the span across the Mersey and the Canal is 1,000 ft., although the strengthening girder is 1,150 ft. long. The transporter car is a platform 55 ft. long and 24 ft. wide, and clears high-water by 12 ft.

Twenty-eight men are employed on the bridge, which is operated by an electrically-driven winch system and is certified to carry a maximum load of 20 tons. Each year two million pedestrians have paid their twopences to cross the Mersey here, but traffic of all kinds over the new bridge will be toll-free.



Railway Notes

Contributed by R. A. H. Weight

Much That is New

DIESEL traction is looming more into the British Railways picture as more express, mixed traffic, or shunting locomotives enter service, while many others are ordered or in hand at Works. Self-contained multiple-unit passenger sets appear increasingly in many parts of the country, usually providing faster and more frequent services that prove highly popular. Much electric rolling stock is also under construction intended, for instance, to operate before long on the high-tension overhead systems being prepared on G.E. line suburban routes from Liverpool Street to Chingford, Enfield, Hertford, Bishop's Stortford; from Manchester (and later Liverpool) to Crewe, L.M.R., as first stages in more comprehensive schemes.

A new marshalling yard north of Carlisle incorporating many of the latest "press button" electrical and mechanical aids to rapid shunting and sorting of wagons, providing much quicker dispatch and transits, will replace nine smaller and older yards opened originally by separate English or Scottish Railways in various parts of the city area. A power signalling installation with track improvements between Carlisle and Gretna Junction forms another part of the modernisation plan along important routes to Glasgow, the west and north of Scotland. Similar improvement work at and north of Perth is in part well advanced.

A set of bright red Travelling Post Office vans and Sorting Carriages recently entered service on the 10.20 p.m. Postal train from Paddington to Bristol, Plymouth, etc., and its corresponding return service. The vehicles, of B.R. Standard design for general service, have improved lighting and equipment, including wide doors at the sides as well as at corridor ends to facilitate handling of the bags of mail.

* * * *

Full details are now available concerning the rail tour organised for 21st May by the M. & G. N. Railway Preservation Society. Those interested should write now to Mr. B. Clark, 578 Eastern Avenue, Ilford.

Aboard Portsmouth Electric Express

The S.R. direct Portsmouth–Guildford–London line has been electrified for more than 20 years. An extensive scheme completed around 1938 also included the longer route by way of Chichester–Horsham, Brighton–Portsmouth services, and links with the main Brighton–London and outer suburban tracks already electrified on the customary S.R. d.c. third-rail system. The direct trains from Portsmouth join the main West of England and Bournemouth tracks to Waterloo at Woking, Surrey. They are the only coastal ones of long-distance main-line character operated electrically, for the intensive network of electric services based on Waterloo is, otherwise, of the suburban or outer suburban type.

The fast Portsmouth trains normally carry a considerable number of passengers to and from Surrey towns at which they call. So it is a busy route with hourly, fast trains all day and extras morning and evening. Huge holiday traffic to and from the Isle of Wight or the Portsmouth–Southsea—Hayling area necessitates no less than four fast Waterloo services each way hourly on summer Saturdays, some serving Portsmouth Harbour only.

Diesel and steam power at King's Cross. The diesel-electric locomotive No. D6103 is on an empty train, while alongside is an A4 ready to take the "Heart of Midlothian". Photograph by G. O. P. Pearce.

Last summer I joined the 1.20 p.m. for Waterloo at Portsmouth Harbour, which station is partly over salt water, close to Spithead and the famous Dockyard, with direct access to the Isle of Wight ferry ships connecting at regular intervals with Ryde, five miles away, and conveying passengers, parcels, mails and so on. It was the usual 12-coach formation—three 4-sets, corridor and vestibuled with restaurant-buffet car. For such trains there are six motors, one at each end of each set, linked together in what is called multiple unit, under control of the one driver or motorman.

L.M.R. type 2-6-2 Tank No. 41316 on S.R. stock leaving Argos Hill tunnel, near Mayfield, on the "Cuckoo Line". Illustrations on this page are from photographs by S. C. Nash.

We restarted from the next station, Portsmouth and Southsea, at 1.25, a minute late, on the quickest timing with three stops over a partly difficult course of sharply changing gradients through wooded hill country. There were two checks before easing for the curves at Havant, Hants., 7¼ miles, where the Chichester and Hayling (steam, single) lines diverge. The 1-in-80 climb brought speed down to 47 m.p.h. before the short Buriton tunnel, but it was no lower than 55 up the less continuous, though formidable, hills before stopping at Haslemere, where we were slightly late.

Typically smart running followed with prompt station work at Guildford and Woking. Maximum speeds so far had been 72 and 80 m.p.h. respectively near Petersfield and Milford; a severe slowing has to be made round the curves at pretty Godalming. On the flatter and straighter main line we were soon running at 78–76 m.p.h.—more like a steam express that had passed Woking at high speed—passing Wimbledon, 17 miles from Woking start in 16 min. and Clapham Junction, 20½ miles in 19½ min. Signals almost stopped us outside Waterloo, though a quick recovery and stop took us in exactly on time, at 2.54, within 1½ hrs. from the Naval City 74 miles away.

A stop at Havant has since been introduced without increased overall time.

The Oxted Steam Lines, S.R.

One suburban, or rather outer-surburban and residential, group of services that is growing in importance is so far entirely steam operated from Victoria and London Bridge termini, the motive power being largely of the B.R. class 4 2–6–4T type, with modern corridor carriages. The Brighton main line is left at South Croydon from which point, with much climbing, most of these trains go from Oxted by way of East Grinstead (High Level) to Tunbridge Wells, West. Some reach the same destination via Edenbridge, Town. This is a shorter route merging into the same tracks at Groombridge, where there are triangular junctions also connecting with auxiliary coast lines forming part of the network of by-ways through beautiful country, built by the former London, Brighton and South Coast Railway and known generally as the Oxted lines.

Elderly push-and-pull 2-coach trains with H class ex-S.E. and C.R. 0–4–4Ts provide most of the Oxted–Edenbridge–Tunbridge Wells services. By means of a single track connection between the West and Central stations in Tunbridge Wells, such journeys continue on to the Kent main line at Tonbridge, sharing the Tunbridge Wells (Central)–Tonbridge section with the Hastings–London diesel-electric trains, and that through from Groombridge with steam trains from Brighton or Eastbourne to Tonbridge. Hourly regular interval services are usual on each route, with additional business and holiday trains.

It is still possible to travel in a steam train 'twixt London and Brighton via Oxted–Eridge–Uckfield, provided one is not in a hurry! The electrified Sussex coast route is joined at Lewes. There are through carriages, too, from Victoria to Eastbourne detached at Eridge, and run over the scenic "Cuckoo Line", linking with the normal route at Polegate.

S.R. L1 class 4-4-0 No. 31786 on a three-coach set train leaving Eridge for Brighton. The brake-end vehicles have the "birdcage" lookouts on the roof that were typical of S.E.C.R. practice for many years.

Writing in Red Rock

Solution to a Seaside Mystery

By Geraldine Mellor

TO members of the general public, the actual manufacture of a stick of holiday rock is most intriguing. This was proved four years ago when a Rock Exhibition was held at Blackpool, at which thousands of interested visitors from all over Britain were able to see the various stages of rock making demonstrated at close quarters.

The most fascinating business of all though, is that of watching an expert put the letters into seaside rock—a highly specialised craft that remains an alluring enigma to many outsiders. So here is a description of the skilled job done by the man who writes in holiday rock.

Rock making is a fascinating process. One way of getting the letters into the rock is explained in this article.

Looking fresh and clean in his white suit and apron, the rock-maker first assembles his ingredients which, for example, might be 12 lb. of sugar, 4 lb. of glucose and 4¼ pt. water, with sufficient oil of peppermint for flavour and the amount of colouring required for his purpose. He boils the mixture in the usual way to a temperature of, say, 290 deg. F., and then carefully pours it out on to a steel plate.

At this point the rock-maker will colour a portion of the boil a dark red for the letters, and another portion which is to form a case big enough to circle the entire batch he will colour pink. The remainder of the bulk is pulled over a hook. The holiday rock craftsman will then put the three portions on a hot-water table to keep them warm.

Having formed the various pieces, the rock-maker then places them together in the order necessary to shape the design. If he discovers that the different parts do not adhere as they should, he sponges them slightly with water to make them stick.

And now we come to the entrancing puzzle as to how the letters get into the rock. This can be done in a number of different ways, but I am going to explain the manner of procedure that is regarded by experienced craftsmen as representing the simplest formation. In this method the dark red letters are set up in a white pulled body with an outer pink covering.

A letter in rock is constructed like a bar of type made in a long line. Because the rock material is malleable, a letter is set up with others into the required name. Incidentally, infinite pains are taken to fashion all the letters a uniform size.

Assuming then that the rock-maker is producing rock for Brixham, the following is the method of procedure. He will take a single broad red bar of sugar to make the upright of the letter B, and a couple of narrow red bars to model the two loops. Round portions of pulled white are placed on the narrow red strips and shaped as if the letter were supported on a vertical

base. This he places on top of the broad bar.

The letter R requires the rock-maker to shape a piece of red sugar into one upright, one down stroke and one top loop, all filled in with pulled white. The letter I is quite uncomplicated, for all that is needed is a bar of red to stand upright, supported on each side by a layer of pulled white. As for X, he forms a large V, so that it is big enough to divide, and places top and bottom, with white pulled to fill in each side.

Coming to the letter H, the rock manufacturer fashions two big bars of red sugar for the upright strokes and another for the crossbar in the middle. Above and below the bar he places pulled white and arranges the uprights on each side.

The letter A needs two red bars of equal size, and one narrower bar. Above the latter a piece of white pulled in the shape of a V is placed, with another portion of white shaped by the rock-maker positioned under the bar. He tapers to a point and sets the two wide bars on either side.

For the final letter, M, four red bars

With the letters inside, the rock becomes a huge cylinder.

make the two upright strokes and the V-shape between them. The craftsman fills in with a piece of the white mass and forms it into a square.

Now the letter R again, this time for the word "Rock". Then comes the O, which is very simple to form, for all it requires is a circular white roll of sugar placed in one portion of red. The worker lets the letter flatten somewhat and so shape itself into an oval. For C he will take a single oblong portion of red and roll a segment of pulled white to place in its centre of the red, being careful that the edges do not quite meet.

K is difficult. Three big red bars are necessary—one for the up stroke and two for the sloping ones. Also, a couple of V-shaped portions of pulled white must be formed, and the craftsman adds the sloping branches and fills in with pulled white in the middle.

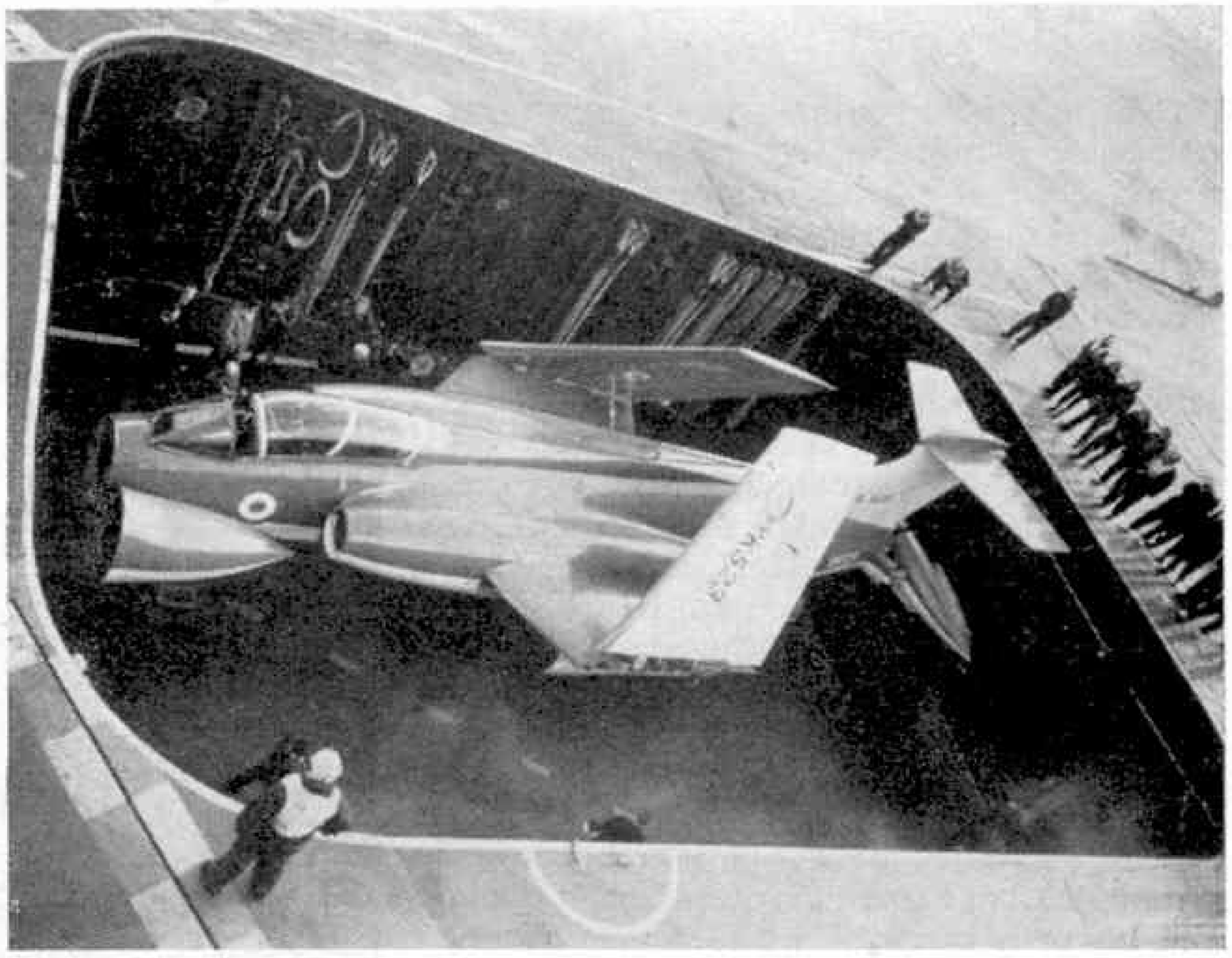
Finally, a filament of the white mass separates each letter in the names "Brixham" and "Rock". Nice judgment is called for in ensuring the equal spacing of the letters of each word.

Having finished writing in rock, the worker must now build the batch up as follows. He places the white pulled centre on top of the word (*Continued on page 214*)

The cylinder is eventually spun out to the standard thickness required and cut into lengths.

Air News

By John W. R. Taylor



On board the aircraft carrier H.M.S. "Victorious". A Blackburn NA.39, with wings and nose folded and air brakes wide open, descending by lift to the hangars below deck.

NA.39 Deck Trials

An important stage in the development of the Blackburn NA.39, the Royal Navy's new low-level atom bomber, has been reached with the completion of its initial deck trials. Operating from H.M.S. *Victorious*, the fourth and seventh aircraft off the assembly line made a total of 30 take-offs and landings at sea in a period of three and a half days.

Despite the fact that it can fly at about the speed of sound, the NA.39 showed that it can land quite slowly, a very important safety factor during deck operations. The reason is that high-speed air is taken from the two Gyron Junior jet engines and blown from slits in the leading edge of the wings, as well as forward of the ailerons and flaps and from the leading edge of the tailplane. This keeps the airflow moving smoothly and quickly over the wings, flaps and control surfaces, giving a big increase in lift and permitting a slower landing approach.

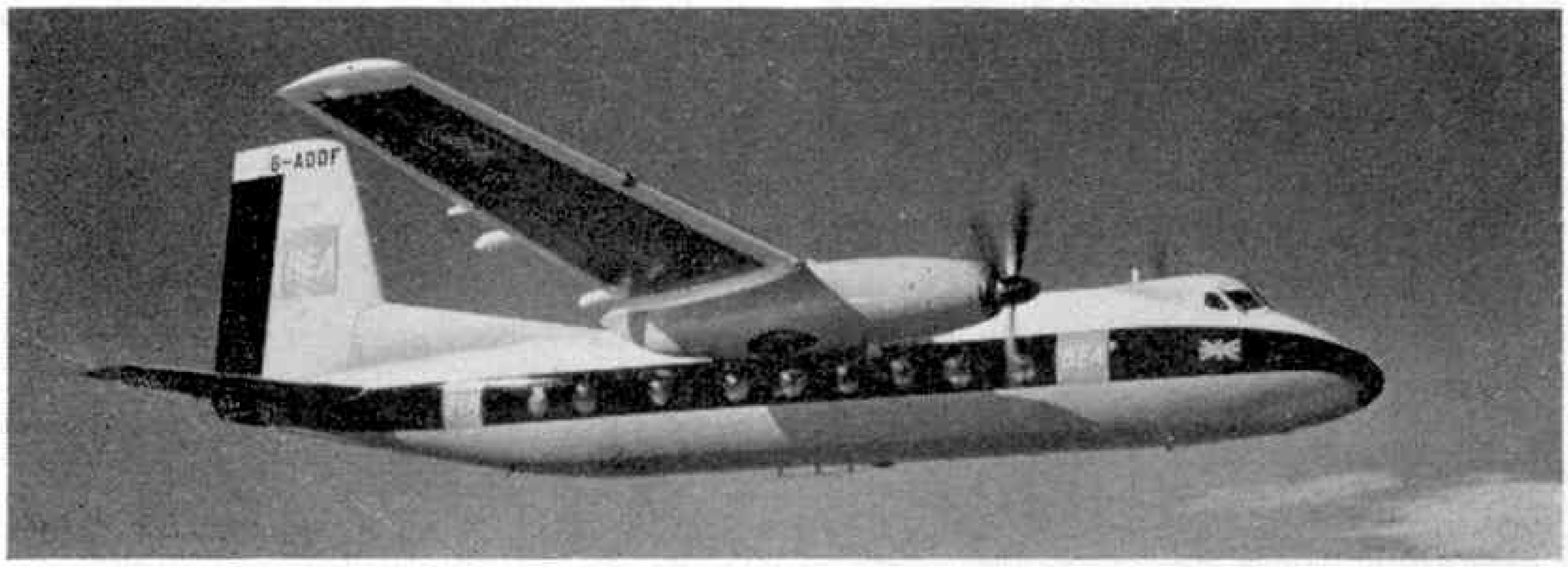
As the engines are kept at full power to supply the blowing air, the entire fuselage tail cone is designed to split open sideways to act as airbrakes and provide drag to counteract the engines' thrust. The airbrakes are open in the picture above, which shows also how the NA.39's wings and fuselage nose are folded when it is taken by lift to the below-deck hangars on board ship. This reduces the normal span of 42 ft. 6 in. to only 20 feet and the length of 62 ft. 4 in. to 50 ft. 7 in.

Helicopter Installs Beacons

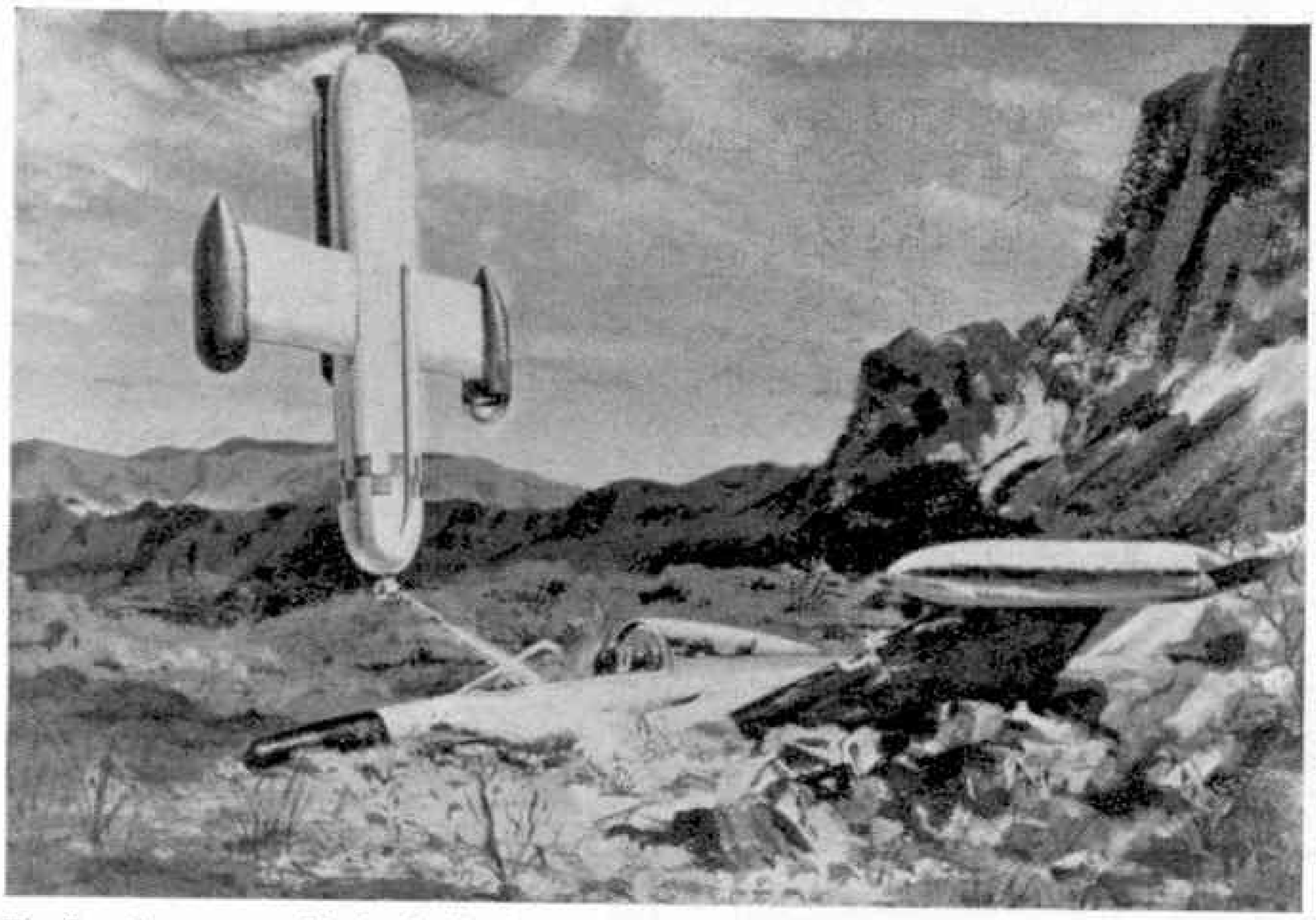
Warning-light beacons installed on the two 1,300 ft. peaks of the Tygerberg Mountains in South Africa remind airline pilots to stay clear whenever they land and take off from the D.F. Malan Airport at Cape Town. How the beacons got there is an interesting story.

They weigh about threequarters of a ton each, and would have had to be broken down into small sections if they had been carried up the mountainside in the usual way. In any case, when General Electric Company engineers arrived on the scene they found that rain had made the ground impassable to land vehicles.

Instead of waiting for better weather, the engineers hired a Whirlwind helicopter from the South African Air Force, and used it to lift the complete beacons quickly into position. By a coincidence, the pilot of the Whirlwind, Captain de Villiers, had crash-landed his Ventura patrol-bomber on top of the Tygerberg in bad visibility some years earlier, so he realised better than most people the value of what he was doing.



The second prototype Handley Page Dart Herald, which recently completed a 32,000-mile demonstration tour of South America.



Firefly, the new guided missile fire-fighter designed by the Solar Aircraft Company, U.S.A. It is here shown hovering like a helicopter over a crashed plane while spraying from an extinguisher to control incipient fire.

32,000 Miles by Herald

If all goes well, Handley Page should soon receive some orders for their fine little Herald airliner from companies in South America, as the result of a recent 32,000-mile demonstration tour of that continent. As a start, it is expected that the Bolivian airline Lloyd Aereo Boliviano will have three to five Heralds.

On this tour, the second prototype, G–AODF, crossed the South Atlantic twice, was demonstrated to some 20 airlines and eight air forces in ten countries and carried more than 1,400 passengers. It operated out of 900-yard dirt airfields, from grass fields soaked by months of rain, and from the world's highest airport at La Paz, in Bolivia. In spite of the rarefied air at this airport, which is at an altitude of 13,398 feet, the Herald's pilot had no hesitation in stopping one of the engines during take-off and then climbing away.

First airline to use the Herald will be B.E.A., which is having three for use on its Scottish routes this year. G–AODF is seen in B.E.A. livery in the lower illustration on the previous page.

Robot Fire-fighter

Something new in fire-engines is shown in action in the illustration above. Its designers, the Solar Aircraft Company of San Diego, California, have named it the Firefly and say that it "shoots like a rocket, hovers like a helicopter and stops fires like a crack brigade."

Firefly is basically a guided missile, carrying fire extinguishing liquid instead of a warhead. Simply by pushing buttons it can be fired instantaneously and guided, by remote control, to an aircraft crash or other fire much quicker than a normal fire-fighting helicopter or truck could get there. On arrival, it turns into a helicopter by spreading the three rotor blades housed at its tail and hovering over the fire. The remote operator then need only flip a switch to drench the target with chemicals that will prevent or put out a fire.

Canberras Fly Fast and Low

Six specially-modified Canberra twin-jet bombers will spend the whole of this year making regular high-speed flights only 100 to 600 feet over land and sea near El Adem, in Libya. Known as "Swifter", the trials are being made to learn what effect high-speed low-level flight has on aircraft structures and aircrews, in preparation for the time when new strike aircraft, such as the Blackburn NA.39 and Vickers-English Electric TSR.2, enter service.

It is known that atmospheric turbulence is greater near the ground than at height and is influenced by the nature of the surface (land or sea, desert or wooded, hilly or flat, etc.) and by varying weather conditions. Accelerometers and automatically-photographed fatigue-meters in the Canberras will record all "bumps" and their effect on the aircraft. The crews will wear the latest type of ventilated suits and, by examining the men after landing, doctors from the Institute of Aviation Medicine will learn how good the suits are, and how long pilots can be expected to fly safely when subjected to the vibration and turbulence of low-attack work.

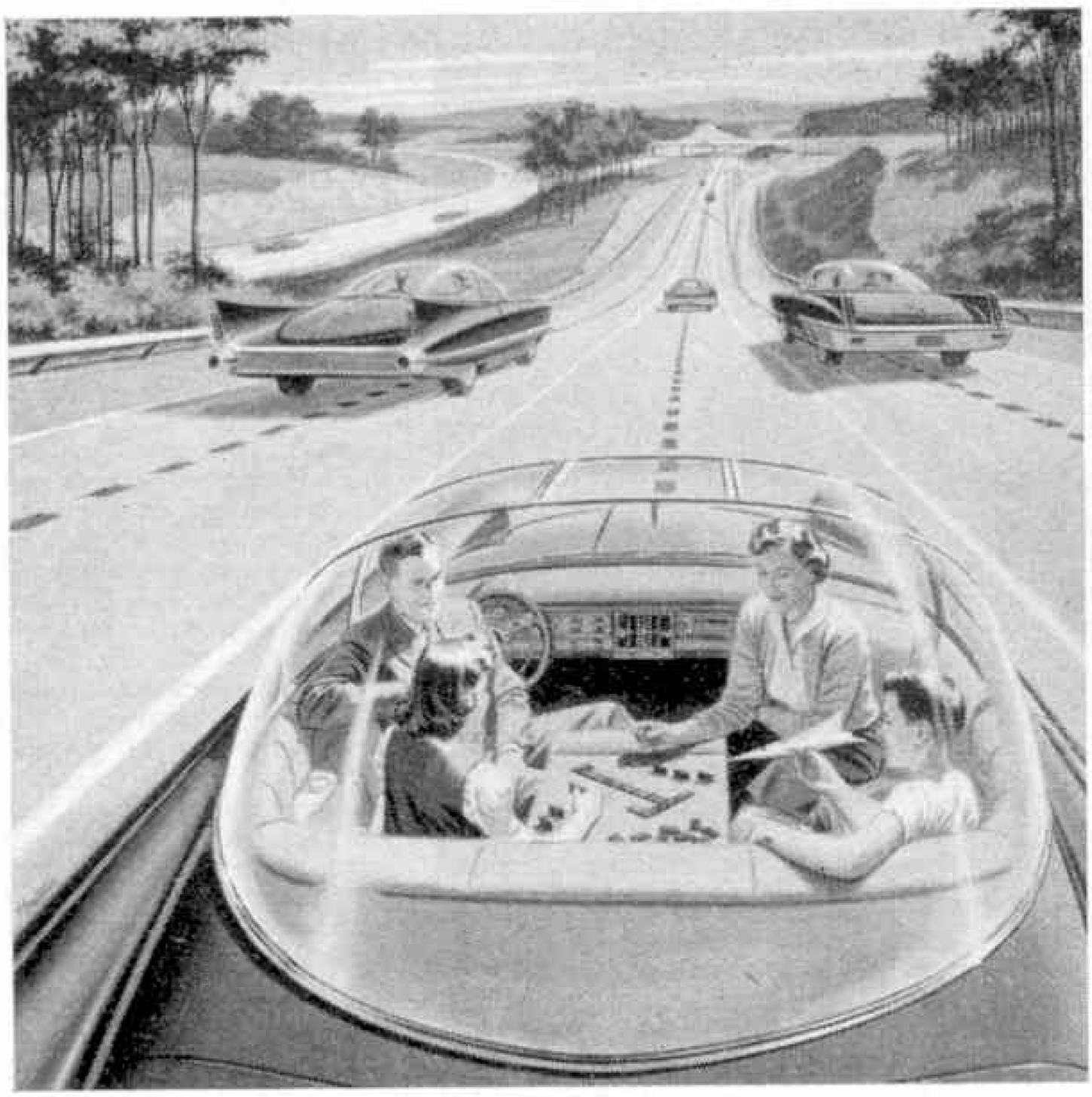
Biggest Ski-planes at South Pole

Seven ski-equipped Lockheed C–130 Hercules transports have been used to carry nearly 400 tons of supplies and equipment to inland bases of the U.S. Navy's "Operation Deep-Freeze" expedition in the Antarctic. In doing so, they have become the biggest aircraft ever to land at the South Pole.

In the past, supplies and equipment were usually dropped by parachute from Globemaster transports, operating for three months of each year from an ice runway at McMurdo Sound. The ski-equipped Hercules can operate from snow or ice for up to seven months of the year without any need for specially-made ice runways. Being able also to land at the South Pole and Byrd Stations, they save the cost of parachutes and eliminate the damage and delay often caused by air-dropping delicate scientific instruments.

Take-offs are made with the help of rockets, built into the undercarriage fairings.

A Lockheed C-130 Hercules transport equipped with skis flying from the South Pole.



Dominoes to pass the time away—an artist's impression of the car of the future running on automatic control.

A Ride by Electronic Chauffeur

By

Ian S. Balderstone

WHAT will the family car look like some 20 years from now? What changes will we see in long-distance luxury coaches? To try to get an answer to these questions I decided to visit the General Motors Corporation Test Centre in America where Firebird III, the first space-age inspired vehicle, is at present undergoing exhaustive trials.

Described as a laboratory on wheels, Firebird III has beneath its missile-like shape the tools of the space age—transistors, computers and electronics, which, for the first time, give automatic guidance and improved passenger comfort in a motor car. Now, admittedly, this is a test car, imaginative in design, with no pretence at being a family runabout. However, radically improved driver control, safety and comfort features perfected through this vehicle will certainly be advantages to be enjoyed in wheeled vehicles to come. Why not come along for a ride into 1980?

Point your ultrasonic key at the access door and it swings gracefully upward and forward. Step into the car without stooping and seat yourself in a comfortable individual lounge-chair seat. The position is relaxed, you will notice, because there is no steering wheel—such things went out years ago! The control stick extending just a few inches above the centre armrest does your steering when moved from side to side, and it is also your accelerator when pushed forward and your brakes when pulled back. To change gear, simply twist the hand-fitting knob on top of the same control stick. This, then, is Unicontrol—one control does everything.

Passengers can Share

Push a button to start the accessory engine as you and your passengers settle down comfortably. This engine powers the air conditioning system to cool or warm the car automatically—even before you enter the car if you pre-set the timer to put it in operation. It also powers other accessories and the control mechanisms.

The main engine is started when you push the ultrasonic key into the receptacle in the instrument panel. Surprisingly, the sound of the gas turbine located behind the passenger compartment is barely more than the whirr of a large fan. Glance at your instruments; there are only three—first a tachometer, speedometer and fuel gauge. The new science termed human engineering says that watching instruments does not go with motorway driving, so all other instruments signal the driver only as warning lights.

To get Firebird III under way is a surprisingly simple matter; twist the control in your hand to forward drive position and push forward to accelerate. Swinging the control to left and right as

General Motors' newest experimental car, Firebird III. The main engine is behind the passenger compartment.

you travel slowly, you will notice a strong steering response. As your speed increases, this response lessens to prevent swerving and to give smooth, easy steering.

Your passenger can share this new driving experience by taking over the control handle at any time. If, of course, you should both want to relax and enjoy the scenery, then simply drive to the nearest motorway with a built-in Autoguide beam. Once on such a road, set your automatic road speed control and then release the manual control. Your car will then be steered electronically at the speed you select, regardless of curves or hills. This is automatic car control.

Just as the aeroplane progressed by necessity from manual to electronic control, so will the motor car. Firebird III is the first electronically-controlled car. It was designed and built by car planners who, quite deliberately, studied aircraft techniques. They do not intend to take to the air with this vehicle, but they do feel that the lifting of previous limitations on car and coach design will serve to bring the public the vehicles that an electronic age has now made possible.

New High-speed Network

Autoguide in Firebird III takes over steering control by following, electronically, a low frequency powered cable in a test circuit at the General Motors' Technical Test Centre. However, it was back in 1953 that the David Sarnoff Research Centre first revealed a laboratory tested method for car driving by means of an automatic pilot system. Since that time, the principles employed in the system have been used to demonstrate the first practical method for developing accident-free vehicle control systems which could be introduced into existing road networks.

We in Britain are, at long last, seeing the beginning of a new high-speed road network. Is it not time, therefore, that engineers made a study of the Sarnoff System? Clearly, of course, building such a system into our motorways would be a vastly different undertaking to installing the control system in the one-way test circuit at General Motors.

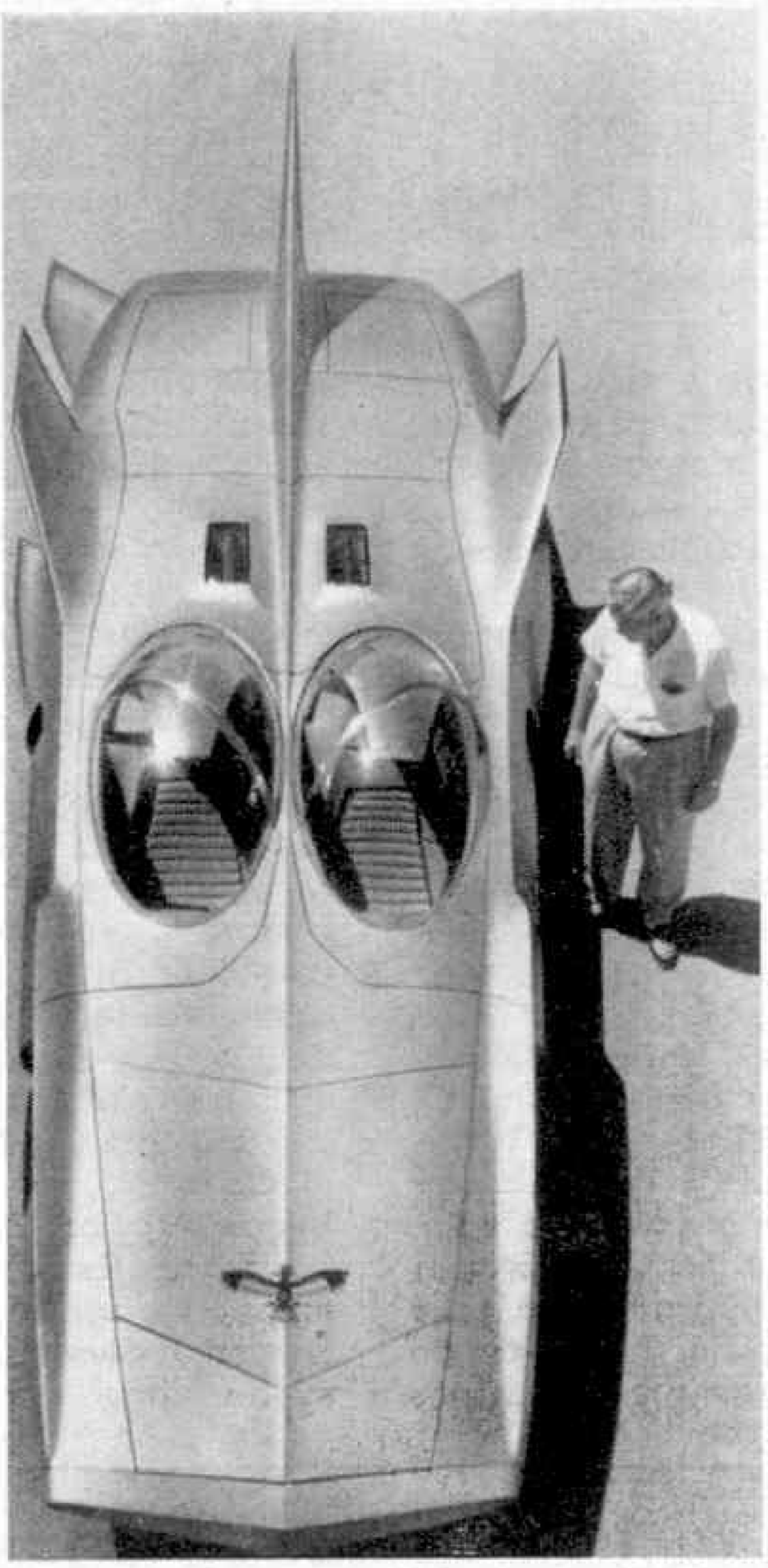
There can be little doubt that improvements in road engineering and car construction are tending to diminish the demands on the human driver where long stretches of road exist, and reduce accidents resulting

All-round visibility and foam-rubber, contoured seats are among the features of the Firebird.

from mechanical failure. They have not helped, however, to cut down accidents resulting from traffic congestion and other complications beyond human driving abilities. Here I would point out that, after reading reports on conduct on the M1, I have had to reduce my assessment of human driving abilities!

On my visit to the United States I discovered that the Americans believe that some of these hazards may even be increasing with the growth of long-distance driving on their turnpikes and freeways, where the driver has little more to do than maintain a fixed speed on a fixed course until sudden random manœuvres produce accident situations.

These considerations, together with the periodic hazards of poor visibility in fog, smog, storm or darkness, led the State Engineer of the Nebraska Department of Roads, Mr. L. N. Rees, to consider, several years ago, possible ways in which electronics might relieve the driver of his semi-automatic functions and thus minimise the human factor in the cause of accidents. At the time, his team were able to convince themselves of the technical feasibility of the idea, and also to demonstrate several features of an automatic driving system with the aid of a model installation.



Bird's eye view shows the Firebird's long, tapered nose.

Avoiding New Hazards

It was clear from the start that an automatic driving system would have to be compatible with present-day conditions—the roadway must be easily adapted by gradual conversion. Modification in any road construction must either improve, or at least leave unchanged, the safety of operation of any car or coach using the road. In addition, Rees's team insisted, rightly, that auxiliary vehicle equipment must help the operator without adding new hazards—a point which aircraft designers often overlook. The essential feature of the American highway installation in the first, and all subsequent, stages is the series of electronic detection circuits buried below the road which generate an electrical signal whenever a vehicle passes over them. These signals may, of course, be used for counting vehicles, for controlling traffic and warning lights, and for indicating traffic conditions on appropriate visual indicators at conveniently located traffic control stations. Unlike the usual trip-light control, the system permits automatic adjustment of the timing of traffic lights to the relative volume and speed of traffic on intersecting roads.

On hills and bends, lights controlled by the dectector circuits may warn of vehicles approaching from the opposite direction. In similar fashion, a preceding vehicle can leave behind it a "tail" of lights to warn approaching cars. The signals from the detector circuits can also be used to light warning signals ordering drivers to slow down when they exceed a safe speed.

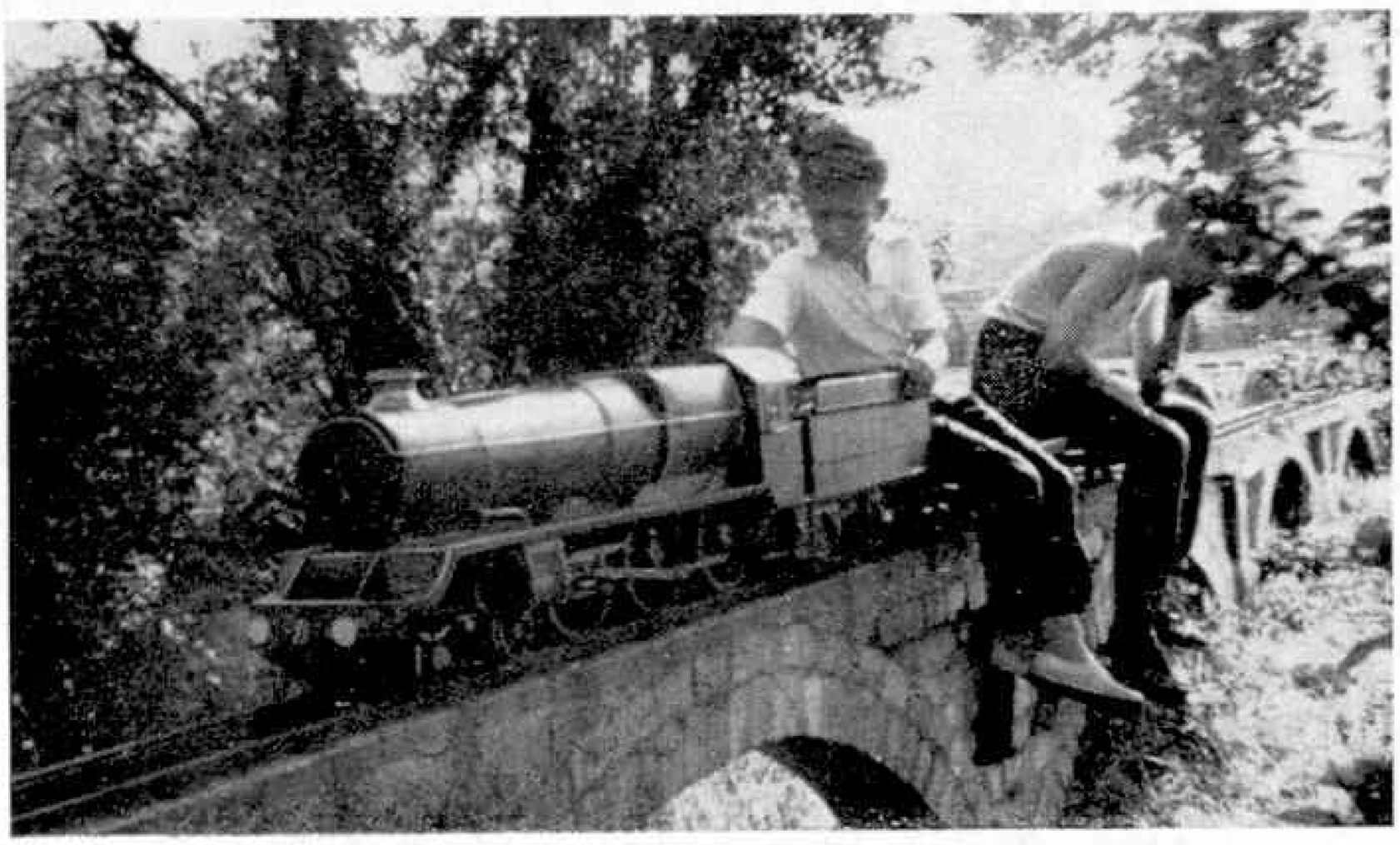
All such applications require no special equipment on any vehicle and would, of course, operate for all types of vehicles.

In the next stage of development of the electronic vehicle control system, some vehicles would be equipped with signal detectors which would give a dashboard indication of the distance of clear road a driver has ahead of him. This would permit him to regulate his speed accordingly, and would give him an *(Continued on page 214)*

MECCANO MAGAZINE

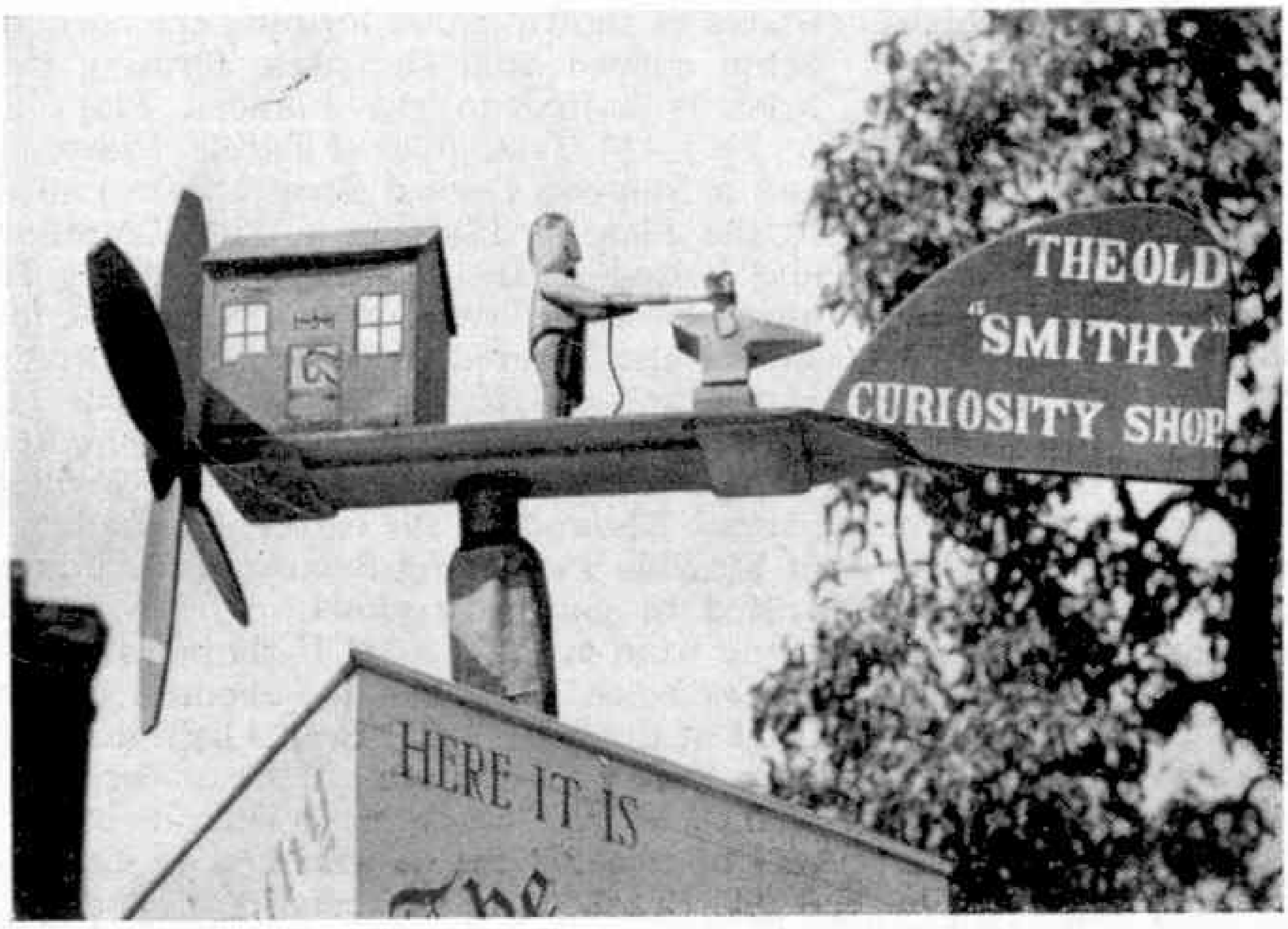
Junior Section

THE adaptability of Meccano for purposes other than Meccano model-building is well-known, and the upper illustration on this page is the latest instance of this to come to the notice of the *M.M.* It shows a fine model of a Western Region King class locomotive and was, in fact, taken before the engine had been completed.



The enthusiastic builder, Mr. K. E. Wilson, of Hanwell, London W.7, writes to say that Meccano parts were used in a small way in its construction. He also pays tribute to Meccano in his declaration that without the instruction in general engineering principles which he derived from his Meccano he could not have designed and built this fine engine. The model is 6 ft. 1½ in. long and weighs about 350 lbs.

Many quaint inn and road signs have been illustrated in the *M.M.* during recent years. The scene of the striking sign shown in the lower illustration on this page is the beautiful village of Godshill, in the Isle of Wight, where this home-made sign was erected to attract holiday visitors. As the wind turns the vanes, the blacksmith, whose face seems to have come from a Giles cartoon, works on his anvil. The photograph and these details were sent by Mr. Reece Winstone, Bristol.



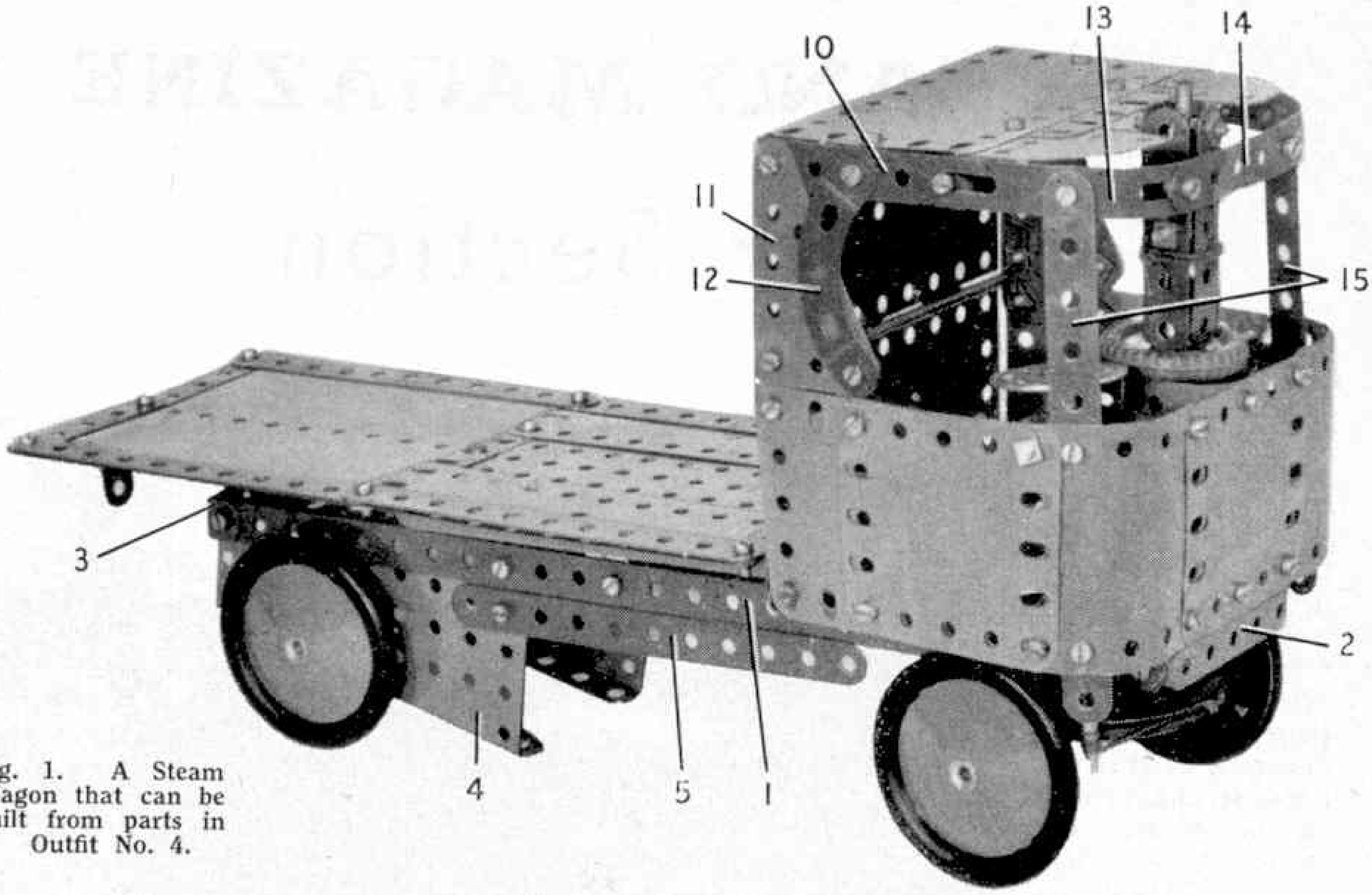


Fig. 1. A Steam Wagon that can be built from parts in Outfit No. 4.

A New Model for Outfit No. 4

Steam Haulage Wagon

Although not so many of them are seen on our roads today, a steam haulage wagon is a quite fascinating sight on the rather rare occasions when one is fortunate enough to catch a glimpse of one powerfully puffing its way along the highway, hauling a heavy load behind it. Our model, which is seen complete in Fig. 1, is based on one of the most popular types of these vehicles, and it can be built from parts in an Outfit No. 4.

The basis of the chassis is a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate to which two $12\frac{1}{2}''$ Perforated Strips 1 are attached by Fishplates. One end of each Strip is bolted to a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plate 2, the other ends being joined by a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 3. A Flanged Sector Plate 4 is bolted to each of the Strips and two $5\frac{1}{2}''$ Strips 5 are in turn bolted to them. The rear axle is journalled in the Flanged Sector Plates. The platform of the wagon consists of a framework made from $5\frac{1}{2}''$ and $2\frac{1}{2}''$ Strips filled in with Flexible Plates, and is bolted to the Flanged Plate. A $2\frac{1}{2}''$ Double Angle Strip 9, secured to the Double Angle Strip 3, is attached to the rear of the platform by a Reversed Angle Bracket. A $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 6 is bolted to the Strips 1 and to this two Trunnions 7 are attached. $3\frac{1}{2}''$ Strips 8 are attached to the Trunnions by Angle Brackets. The back of the cab is made up of a Hinged Flat Plate, which is bolted to the Trunnions and the lugs of two $2\frac{1}{2}''$ Double Angle Strips 10. The front and sides of the cab are filled in with Flexible Plates as shown, those forming the corners being curved, and the plate forming the front is bolted to the Flanged Plate 2. A $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Triangular Flexible Plate 11 and a Stepped Curved Strip 12 are joined to the Flexible Plate by a Flat Trunnion and bolted to the Double Angle Strip 10 on each side. Two Formed Slotted Strips 13 are also secured to these Double Angle Strips and are joined by a $2\frac{1}{2}''$ Strip 14. Two $5\frac{1}{2}''$ Perforated Strips 15 are bolted to the corner Plates and the Formed Slotted Strips. The roof of the cab is also made up of Flexible Plates and Semi-circular Plates bolted to Angle Brackets. The boiler is made from two $2\frac{1}{2}'' \times 2\frac{1}{2}''$ U-shaped Curved Plates bolted together and secured to the front of the cab. A $2\frac{1}{2}''$ Rod is held in place by a Pulley fitted with a Tyre at each end of the boiler. The chimney is made of two sets of two $2\frac{1}{2}''$ Strips attached to Double Angle Brackets, in which is journalled a 2″

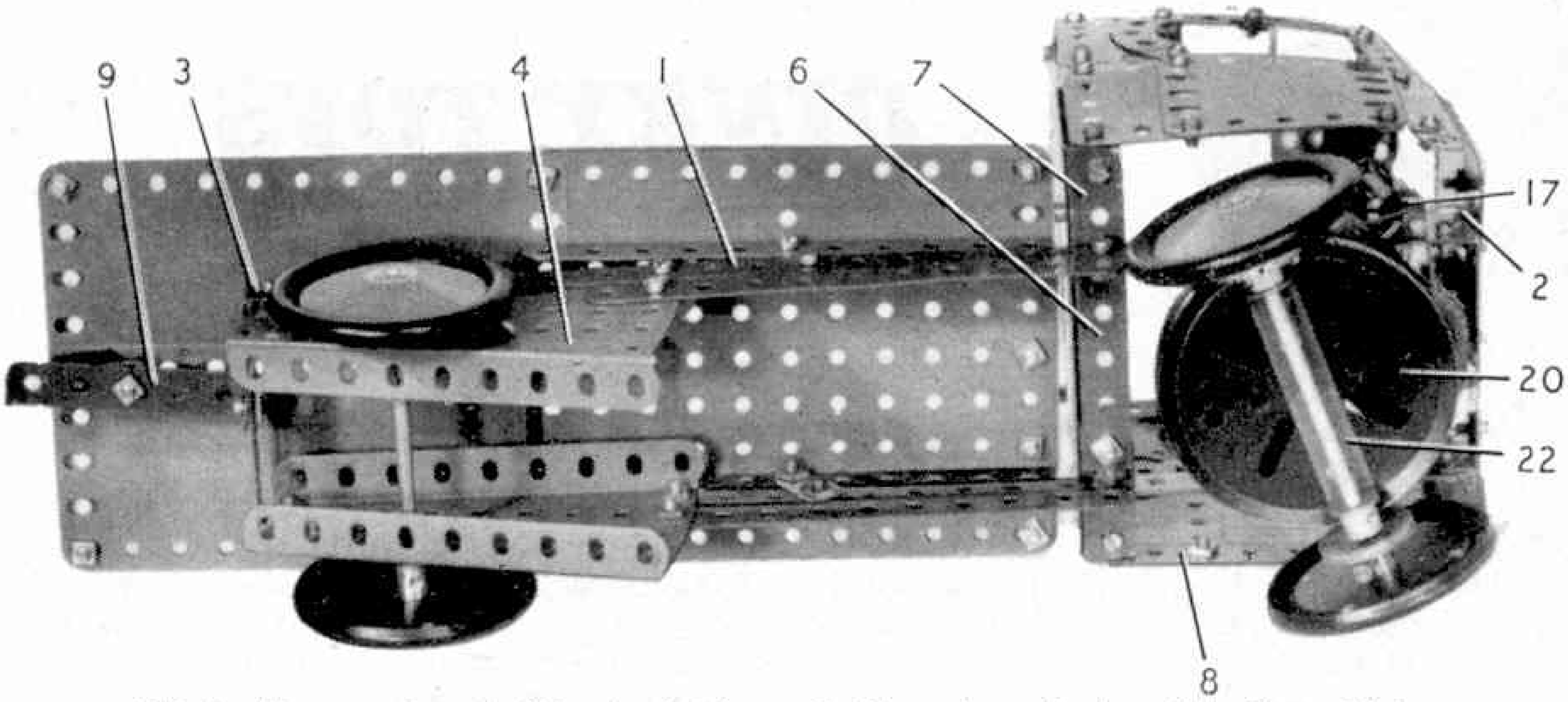


Fig. 2. The arrangement of the steering is seen in this underneath view of the Steam Wagon.

Rod fitted with a Rod Connector and held in place by a Spring Clip. The two components are held together by a piece of Cord and the chimney is connected to the boiler by the Rod Connector. The Bush Wheel, forming the steering wheel, is carried on a 4″ Rod journalled in a Stepped Bent Strip 16 and a 1½″ × ½″ Double Angle Strip 17 bolted to the Perforated Strip 1. A 3″ Pulley 18 is attached by Angle Brackets 19 to the chassis, and a 1½″ Rod, held in another 3″ Pulley 20, is journalled in it and held in position by a 1″ Pulley 21. A 2½″ × ½″ Double Angle Strip 22 is secured to the 3″ Pulley 20 and carries the front axle. The model is completed by taking a length of Cord and winding it for several turns around the 4″ Rod. The ends of the Cord are then passed around the Pulley 20 and tied together to form an endless belt.

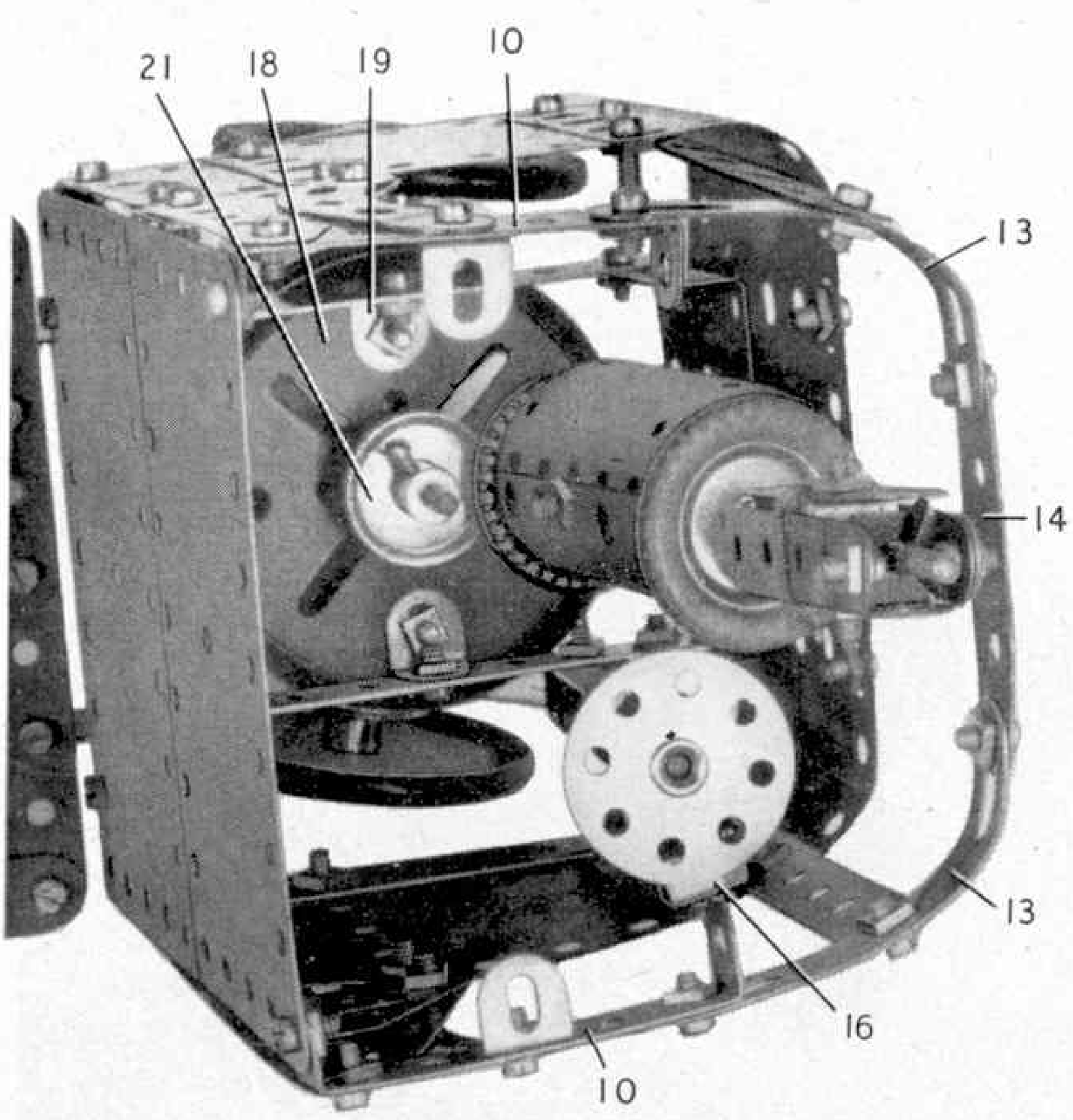


Fig. 3. Looking into the cab with the roof plates removed.

Parts required to build model of Steam Wagon: 2 of No. 1; 8 of No. 2; 2 of No. 3; 9 of No. 5; 2 of No. 10; 2 of No. 11; 6 of No. 12; 2 of No. 15b; 2 of No. 16; 1 of No. 17; 1 of No. 18a; 2 of No. 19b; 5 of No. 22; 1 of No. 24; 2 of No. 35; 87 of No. 37a; 81 of No. 37b; 3 of No. 38; 1 of No. 44; 1 of No. 48; 6 of No. 48a; 1 of No. 51; 1 of No. 52; 2 of No. 54; 2 of No. 90a; 6 of No. 111c; 1 of No. 125; 2 of No. 126; 2 of No 126a; 2 of No. 142; 4 of No. 187; 2 of No. 188; 2 of No. 189; 4 of No. 190; 1 of No. 191; 2 of No. 192; 1 of No. 198; 2 of No. 199; 2 of No. 200; 1 of No. 213; 2 of No. 214; 2 of No. 215; 2 of No. 221.

DINKY TOYS NEWS

Another Fine Missile Vehicle

THOUSANDS of children have enjoyed the thrills of launching the Corporal Missile, the exciting Dinky Toys model that reached the shops a few weeks ago. Now, in the same range, comes another splendid model—Dinky Supertoys No. 667,

By **THE TOYMAN**

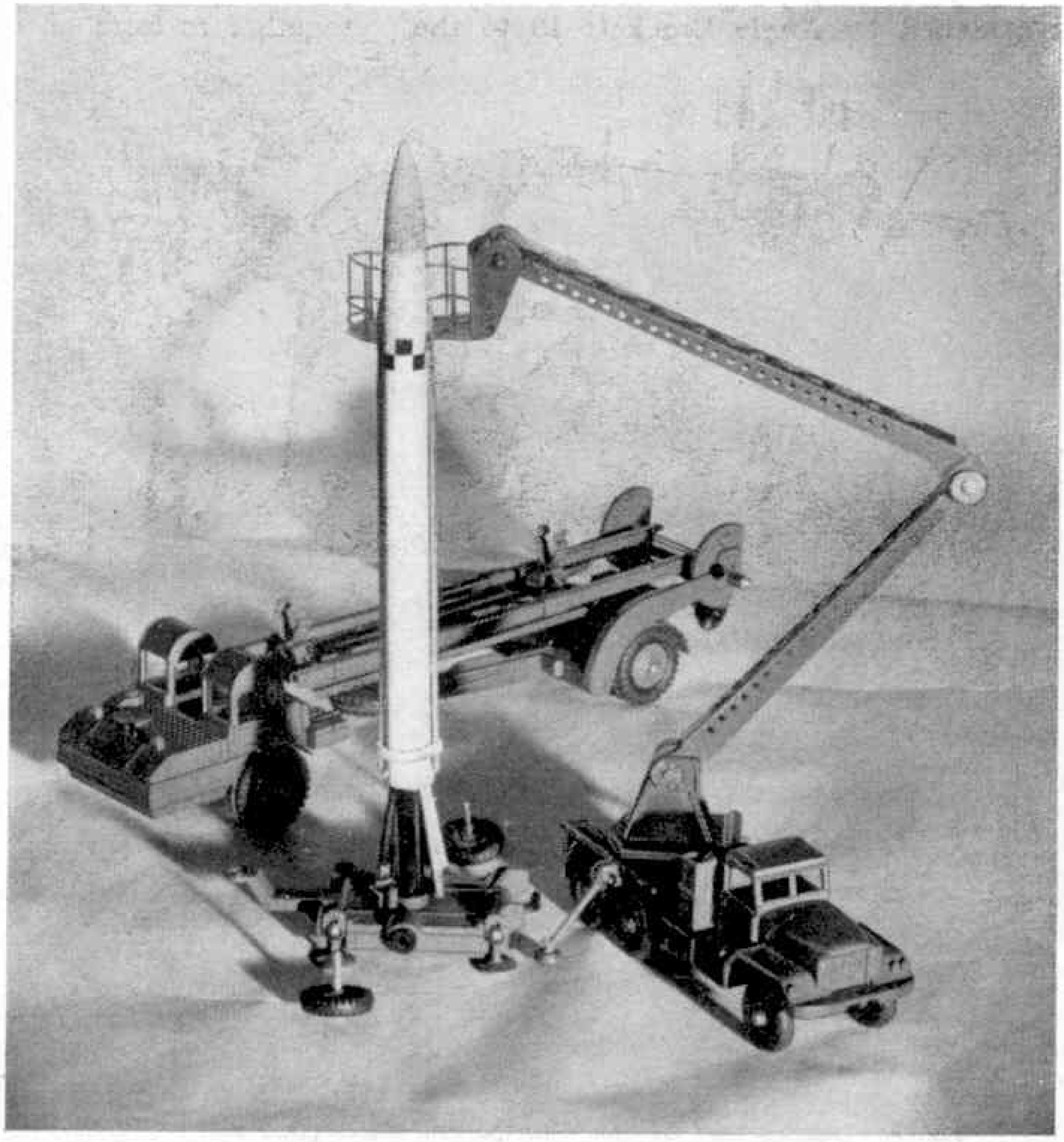
Missile Servicing Platform Vehicle, which you see illustrated on this page.

It is designed for use with the Missile Erector Vehicle and Launching Platform, which are part of the Corporal Missile unit. When the Missile itself has been lowered on to the launching ramp from the Erector Vehicle, the Missile Servicing Platform Vehicle is brought into use so that final adjustments can be made to the rocket's warhead.

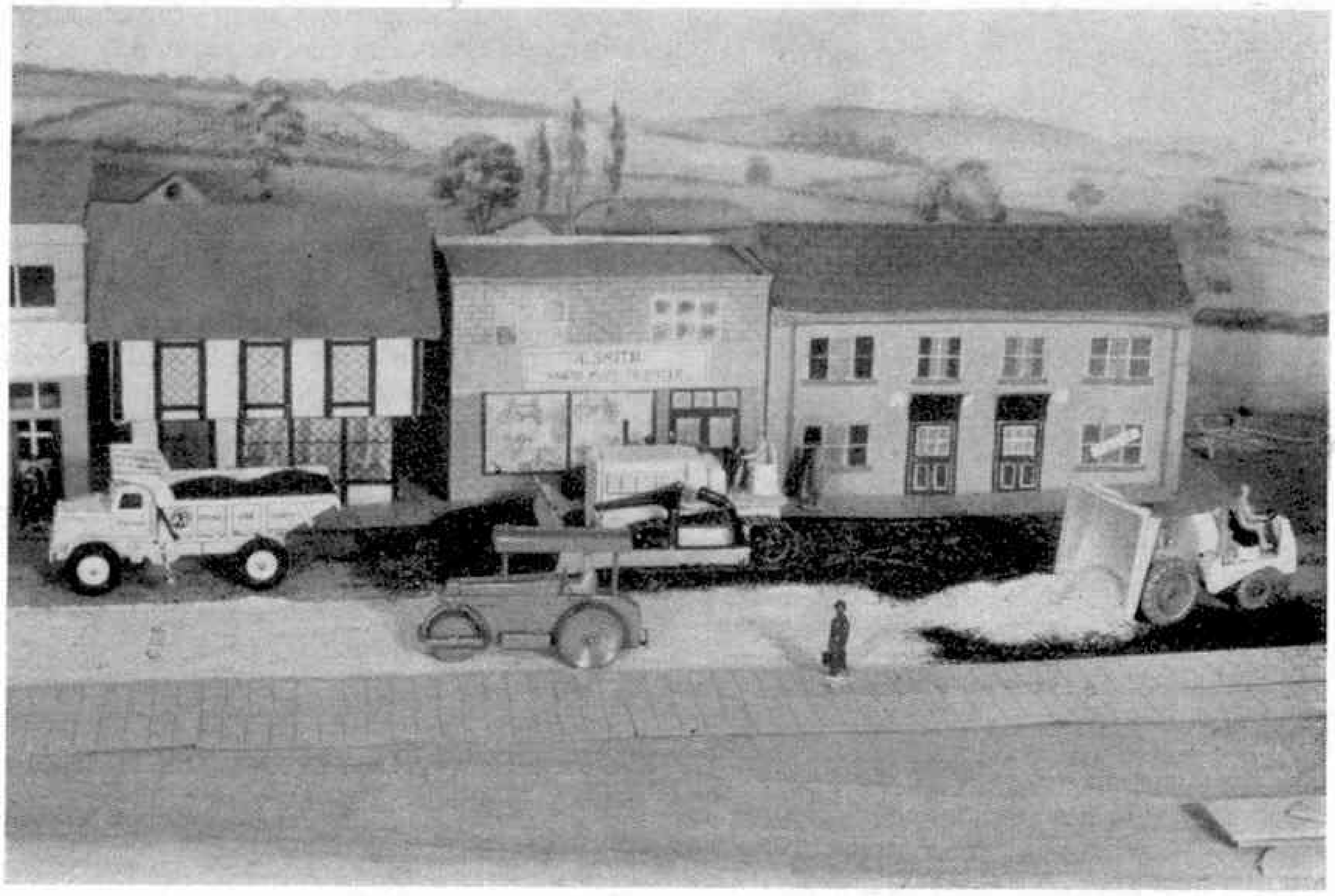
The operating personnel stand on a movable inspection platform or cage, which is mounted at the end of one of twin booms on the Missile Servicing Vehicle.

The end of the other boom is secured to a revolving platform which can be traversed through 360 degrees. This boom is hinged to the second one to form a sort of elbow joint. The cage is hollowed out on both sides in the form of a shallow U so that it fits quite closely around the body of the Missile, and one of the intriguing features of the whole vehicle is that no matter how the booms are raised and lowered or, indeed, traversed in a lateral direction, the cage always remains level.

To enable the men who are operating the rocket unit to enter the platform or cage



This photograph of the new Missile Servicing Platform Vehicle shows how the movable cage at the end of the twin booms fits snugly around the head of the Corporal Missile.



"Danger: Men at Work"—The sign is missing, but the activity is there in this study of road-repairing the Dinky Toys way.

the booms are first so arranged that the platform almost touches the ground. The men step into the cage, which is then raised to the height at which they are required to work on the rocket itself.

On each side of the vehicle are two outriggers. These are provided so that when the booms are extended and the cage is holding the weight of two men, the vehicle itself will be held in a rigid position and there is no fear that it will overbalance. I am sure that all youngsters, especially those interested in space objects, will find this just as fascinating a vehicle as the Missile itself. It should be in the shops by the time you read this, and it will be priced at 13/6d.

MAKING AN EVERYDAY SCENE

And now from rocket sites to road repairs. In the picture at the top of this page you will see a splendid layout which has been made up in our studio—and which you can copy with a little skill—showing how realistically Dinky Toys can be employed in the ordinary, everyday scenes of life. In one of those rather quiet country towns that we seem to like so much in our layouts, the main road is being relaid. Material is being carried by the Euclid Rear Dump Truck on the left (Dinky Supertoys No. 965), but the load this particular vehicle is carrying is not required just at the moment.

On the immediate right of the Dump Truck, an Aveling-Barford Diesel Roller is using its weight to flatten and make as smooth as possible the top surface being laid down by the vehicle on the extreme right, Dinky Supertoys No. 962, Muir-Hill Dumper Truck. In the centre of the picture, just behind the Roller, a Blaw-Knox Bulldozer (Dinky Supertoys No. 961) is being used to push forward and level out the load of Macadam which is being tipped there.

This may not be strictly in accordance with the technique of modern road laying, but it is none the less extremely realistic and is a change from the usual type of layout. It would also look most effective if used by the side of a Hornby Clockwork Train layout, where the roadway could be divided from the permanent way by means of a matchstick fence with two rows of cotton used for the horizontal strands of "wire".

CLEAN LICENCES CONTEST

And now, I want to tell you all about the special competition for all holders of Dinky Toys Collectors' Licences which is to be held during the summer months. I know many of you have waited patiently for

Congratulations to two more winners in our special monthly competition. They are Gordon Bates (above) of Horsham, Sussex, and Peter Hands of Newcastle-on-Tyne. All winners in these contests receive Dinky Toys of their own choice to the value of £2.

this information for several weeks, but there has been no point in telling you about it too soon, as the longer you keep your Licence, and the more models you secure, the better chance you have to keep it up to date. If you wish to enter for this contest, here is what you will have to do:

On pages 5 to 13 of the 1959-60 Collector's Licence are listed all the Dinky Toys, Dublo Dinky Toys and Dinky Supertoys available when the Licence was printed, and on page 14 are blank spaces for all models issued since then. Opposite each Dinky Toys model you possess, and which is listed on pages 5 to 13, enter, as neatly as possible *in ink*, under the spaces provided, the date on which each of your models was bought (or, if it was a present, the date on which it was given to you) and the date on which you spotted, on the roads or in a garage or wherever it was, the real car on which the Dinky Toys model is based. If you cannot remember the exact date then an approximate date will do. Be sure also to list your new models on page 14.

Prizes for the Winners

When your details are complete, post your Collector's Licence to: Licence Competition, Meccano, Ltd., Binns Road, Liverpool 13.

Entries should be sent in between June 1 and June 30, so you have plenty of time in which to complete the job.

Dinky Toys to the value of £1 will be awarded as prizes to the 20 competitors whose entries are considered to be the neatest, cleanest and generally best kept.

If you wish your Licence to be returned after the competition has been judged, please enclose with your entry a stamped addressed envelope, on the back of which you should be sure to put your registered number. Be certain, also, that the front of the envelope carries your *full* address.

All the winning competitors will be notified by post of their success and their names will be published in the *Meccano Magazine* and in the Dinky Toys Newsletter.

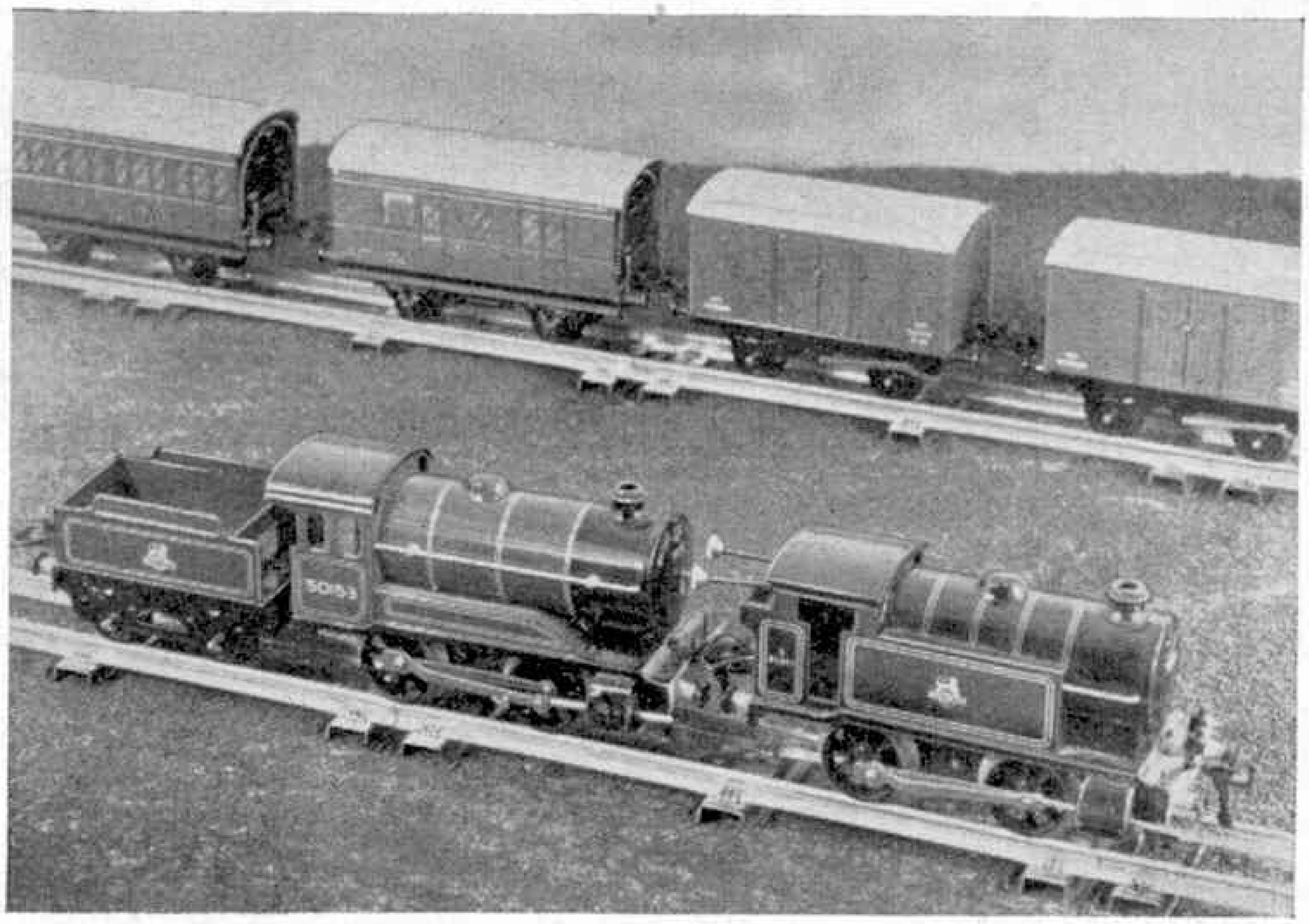
DINKY RHYMES

Finally, to complete this month's notes comes another verse in our Dinky Rhymes series. This month's subject is the:

TELEPHONE SERVICE VAN

The line is dead! The 'phone just burns—
Dad's words are scarcely mellow!
The G.P.O. van comes and turns
His bellow into "Hello!"

"Tommy Dodd" writes about:



Solving Some Coupling Problems

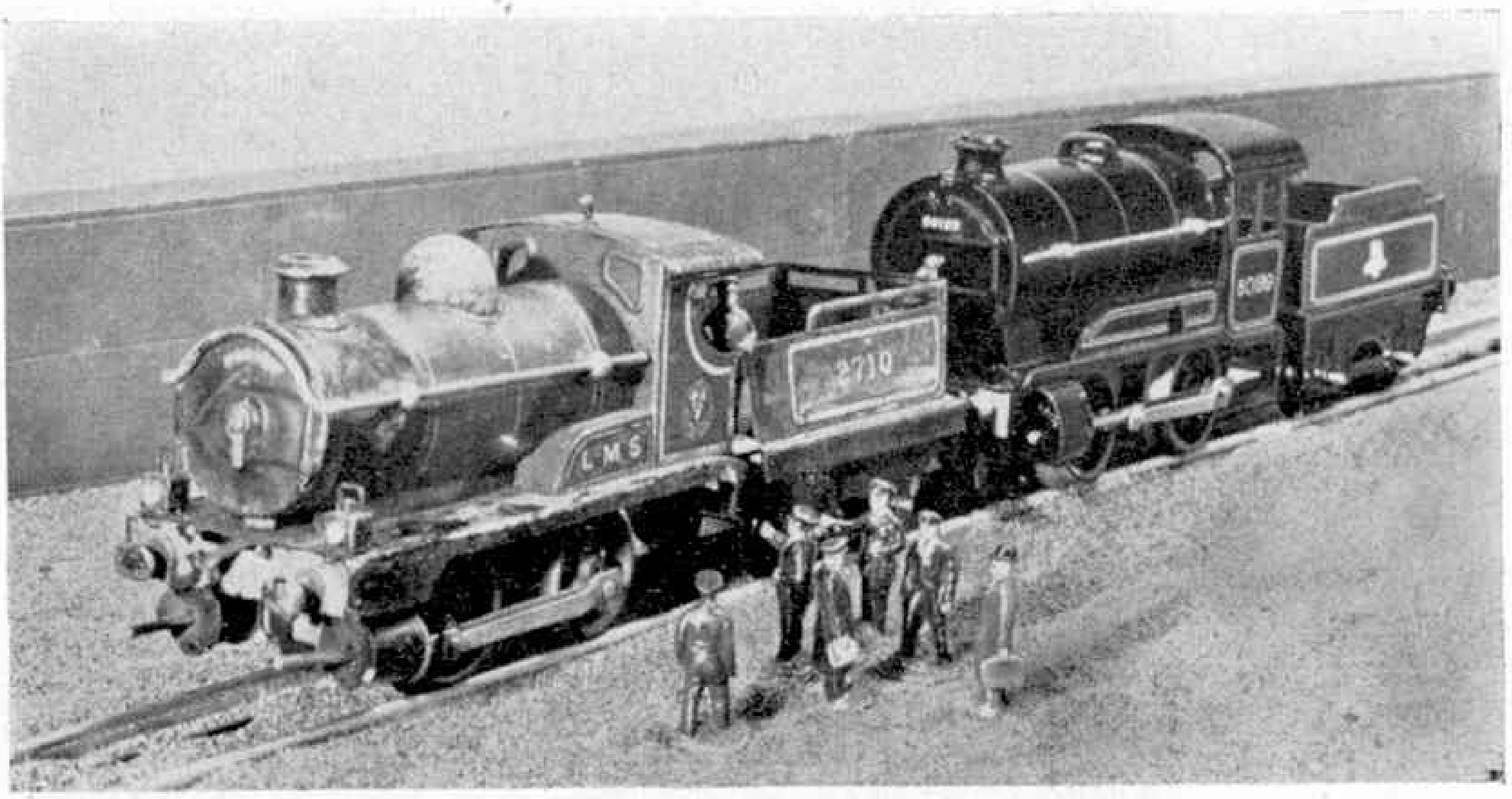
WE have had talks about Hornby Train couplings before in these pages, but the picture above reminds me of this subject again, for the hooking up of two engines together, as in the picture, provides a situation about which some of you write to me from time to time.

Briefly, the position is that there is an automatic coupling at the rear end of the No. 40 Tank Locomotive and this is engaged with the single-link type of coupling at the front end of the No. 51 Locomotive. Some readers are puzzled as to how this can be done as the two types of couplings are quite unlike one another. The solution is simple. We do not attempt to couple the link of the single-link coupling to the automatic one, but rather we use the loop of the automatic coupling and place this inside the hook of the single-link one. This arrangement works quite well so long as the load is being pulled, but there might be slight difficulties if a train were being pushed, especially on reverse curves of 1 ft. radius.

Above, a No. 40 Tank and a No. 51 Locomotive stand coupled together, while a line of Vans waits on the background track.

I am afraid there is a tendency to neglect couplings somewhat, but a little thought will convince you that the condition of the couplings has quite an influence on the success or otherwise of your train-running. You do not want to have the vehicles parting company while the train is on the move, and you want to be sure that when two vehicles fitted with automatic couplings are pushed together, the couplings engage correctly as they are intended to do. It is, therefore, a good idea to see that the hook part of any type of coupling is maintained in good shape, any damage or bending sustained through mishaps and so on being corrected by the careful use of a pair of pliers. Don't be too rough in operations of this kind or you may get one or two broken couplings, although this would involve no special problem really, as spares can be provided.

See that the couplings are maintained at the correct height and that they can pivot freely. A drop of oil on the rivets or eyelets securing the couplings to the bases of the vehicles helps matters considerably and assists the free running



The old and the new together; a veteran Hornby Locomotive is "on show" with a present-day engine.

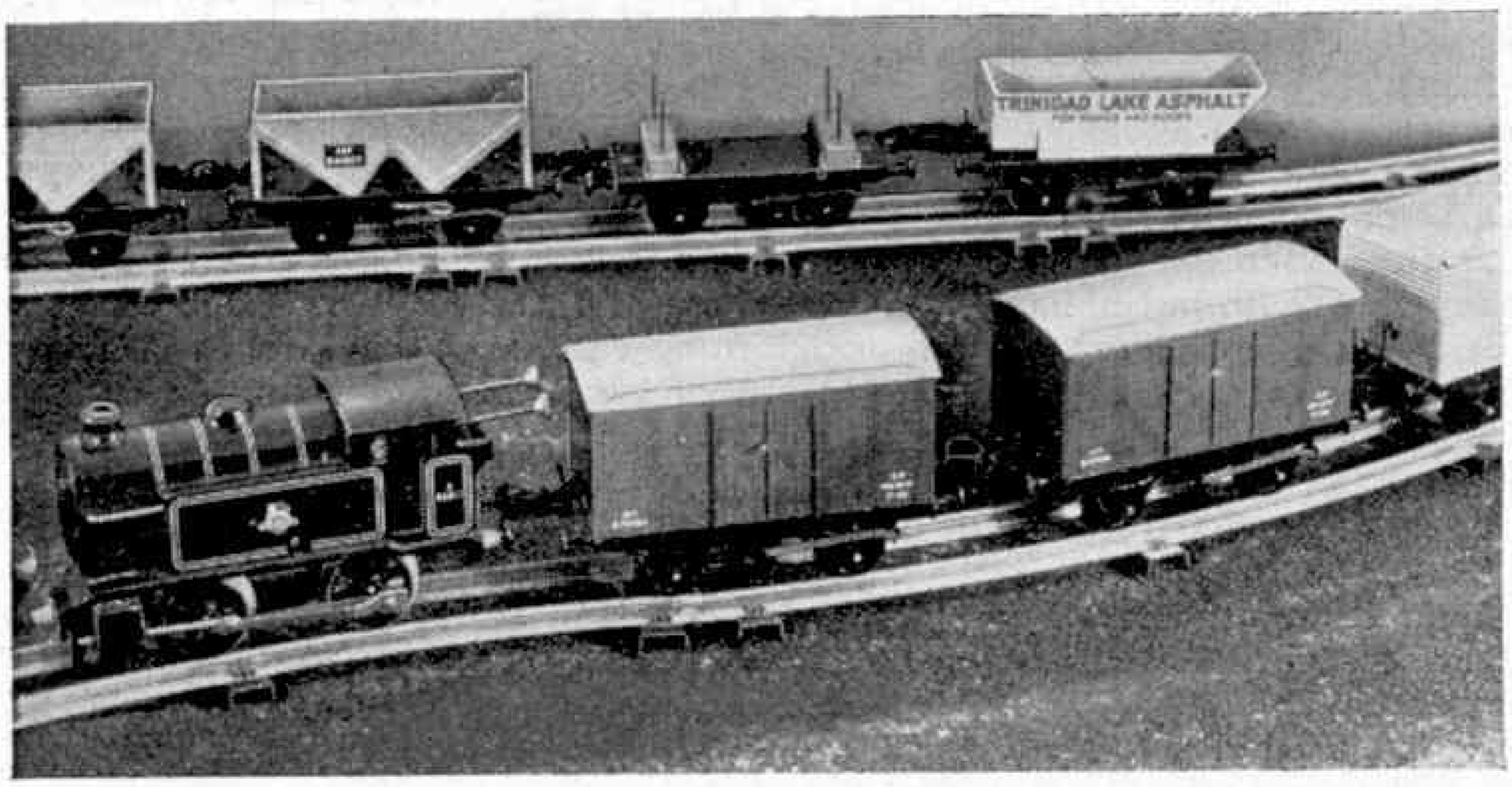
of a train over curved sections of track, particularly reverse curves such as that shown in the lower picture on this page. Coupling links, or loops in the case of automatic couplings as fitted to the No. 50 vehicles, should be maintained in good order so that they move freely as required.

All this may seem very elementary, but it is surprising how much difference really efficient couplings make to the success of train working.

The presence on a railway of stock with different kinds of couplings, perhaps set at different heights, can be the result of the collection of miniature railway equipment from various sources over a long period. Some of you, perhaps, have engines or rolling stock once used by an older member of your family and I know from correspondence that there is still a fair amount of early Hornby Train equipment in use.

In the earlier days of Hornby Trains, the height of buffers and couplings above rail level was greater than it is to-day, so that it is not always easy to run old and new stock in the same train. As a rule Hornby Railway owners are ingenious and can work out their own methods of getting over little problems of this kind. Of course, if you are in the fortunate position of having a complete collection of elderly stock, then the engines and vehicles will match one another in this respect.

References to the Hornby locomotives and trains of early times have been made in these pages on several occasions, but I am sure those of you who are interested in such things will welcome the miniature railway scene above that has been specially staged for you. It includes a veteran Hornby No. 1 Locomotive of pre-1931 type, and behind this is a No. 50 Locomotive of current type, the present-day counterpart of the older model. The idea is that the two engines form part of the kind of exhibition of rolling stock that British Railways hold from time to time, and the miniature figures on the ground are viewing the old locomotive with its preservation in mind.



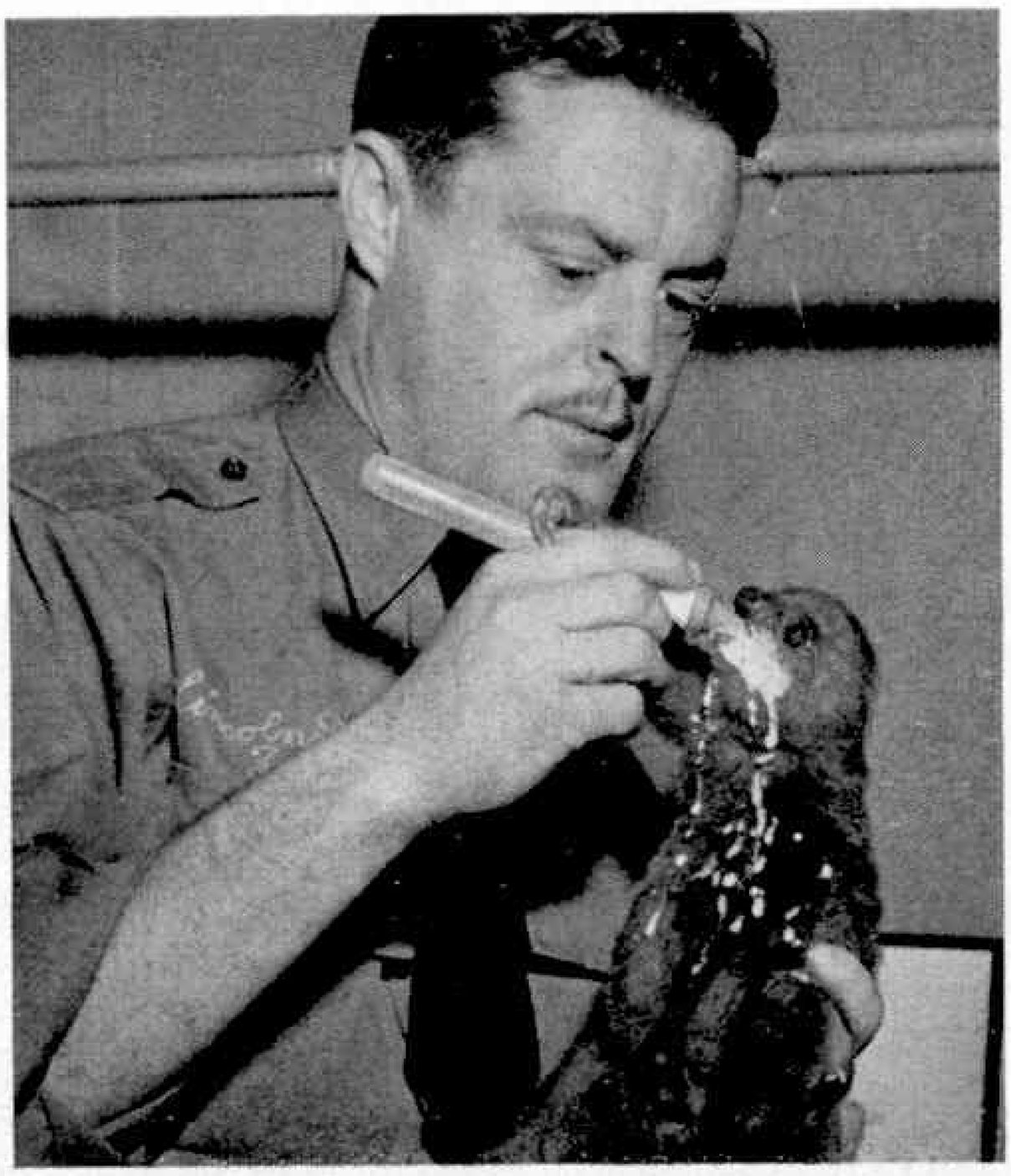
A No. 40 Tank Locomotive and a train of Vans travel over a section of track including reverse curves.

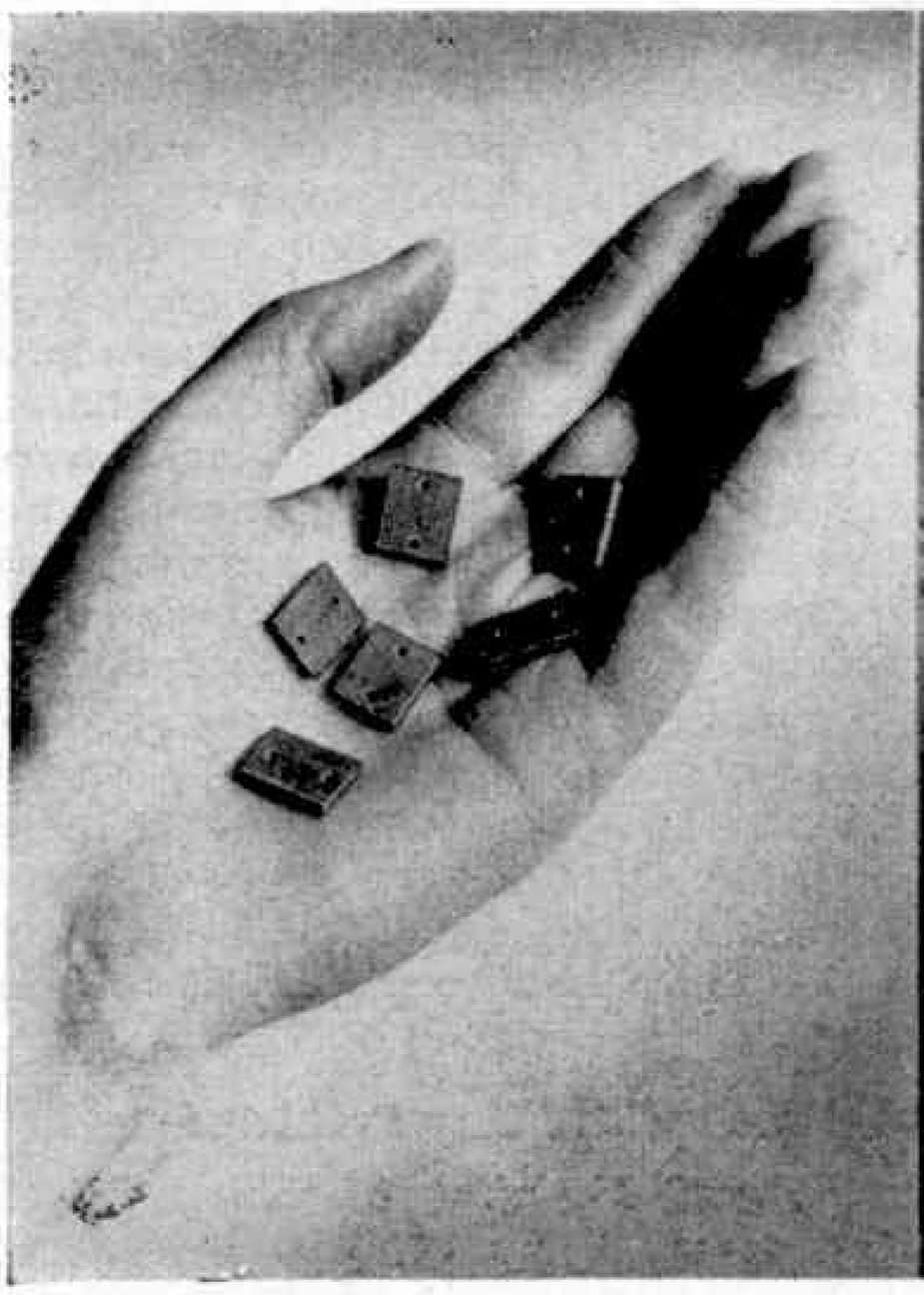
Of General Interest

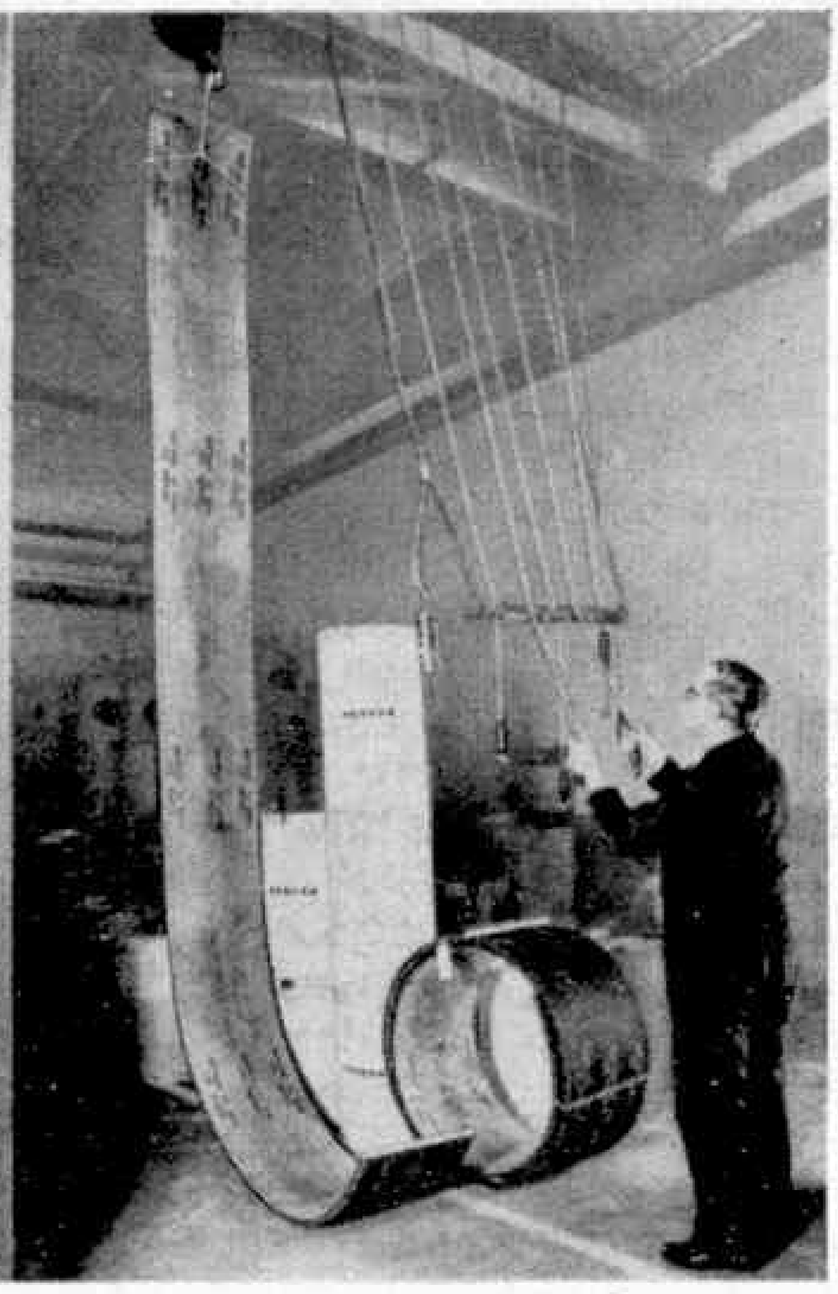
In Chicago's famous Lincoln Park Zoo, a rare little animal is now amusing the visitors and proving a big attraction. She is Valentine, a tiny, two-toed sloth, who has gained an ounce a week since her birth. She was born with both eyes wide open and with a full set of teeth and well-developed claws.

Valentine's mother has refused to show any interest whatever in her amusing baby, and Mr. R. Marlin Perkins, Director of the Zoo, has allowed the little sloth to be taken away from her. Now, a foster-mother in the shape of a broomstick dressed in rags, has been brought into use for the baby sloth, which clings to it with deep devotion.

At feeding time, the tiny creature climbs into the hands of her keeper, Bert Tschambers, who feeds her with an eye-dropper. This happens every two hours, as Valentine prefers a little food often rather than too much once or twice a day. But as you can see from the photograph, even an eye-dropper full of food can sometimes be too much for Valentine. She really ought to be wearing a bib!







When people refer to brake linings, they usually mean those used in the modern car, but brake linings are used for many other purposes. Here (left) are some made by Ferodo Ltd., of Chapel-en-le-Frith, Derbyshire. The smallest linings in current production by the firm, they are brake pads for domestic spin dryers. They measure $\frac{5}{8}$ in. x $\frac{1}{2}$ in. x $\frac{1}{8}$ in. thick.

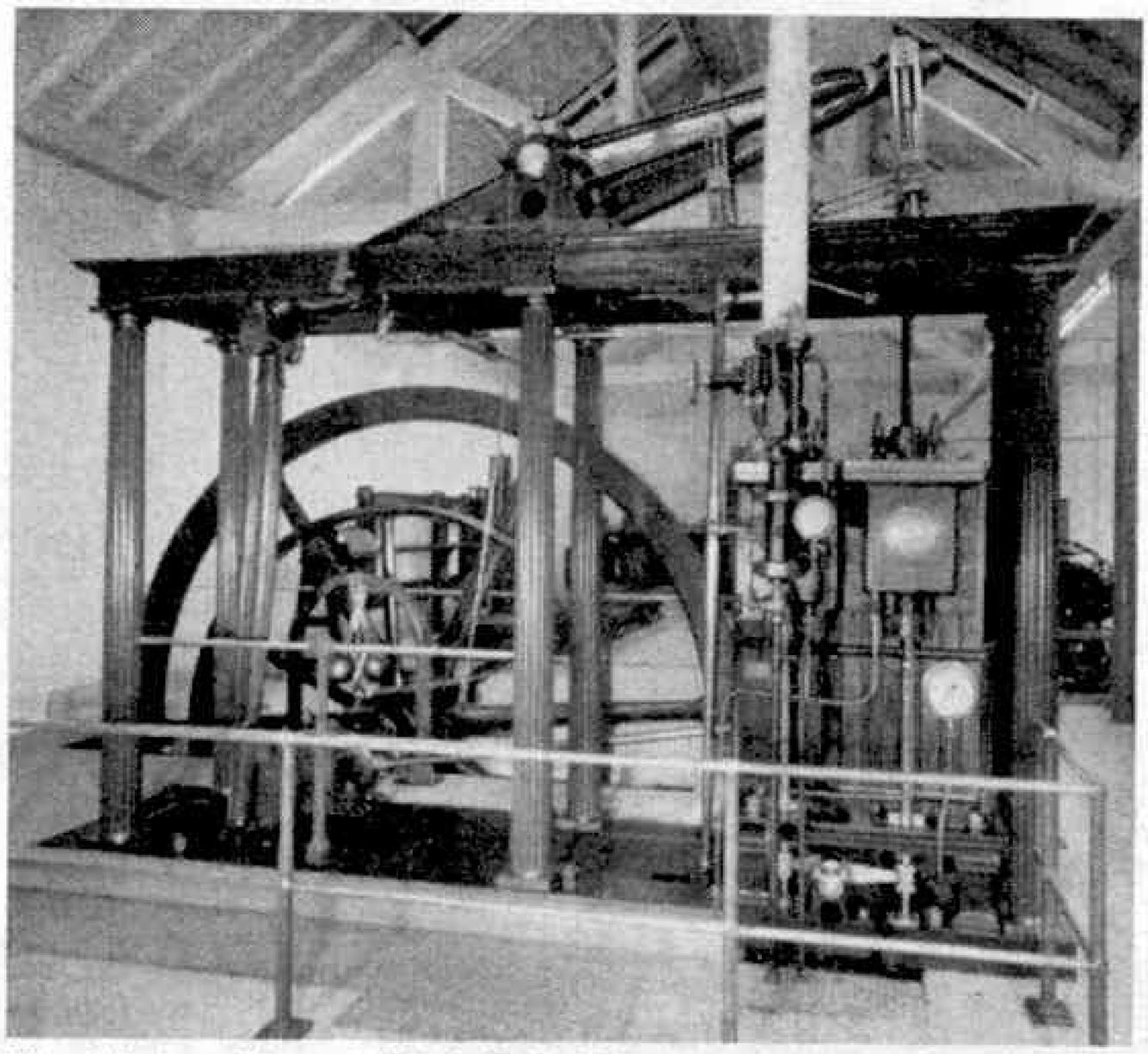
In contrast, the longest brake lining (right) currently in manufacture by the company is 81,600 times bigger and has a surface area 10,200 times that of the spin dryer pad. It is 16 ft. 7 in. long, and is for a colliery winder brake.

Movement in the Museum

Where Old Steam Engines Speak For Themselves

By W. K. V. Gale

SEVERAL public museums now have steam engines of various types on display, and it as well that they have, for the steam engine is rapidly disappearing from the industrial scene. Steam is still used in industry of course; power stations have steam turbines, and many factories use steam for heating or process work. But the steam turbine is in a class of its own—it is not a steam "engine" in the normal sense—and where steam is used for process work, as, for example, in laundries, dairies, food factories and chemical works, there is often not a single steam engine on the premises. So the day of the common steam engine, the maid of all work which provided the power in countless factories, is nearly over.



The oldest working exhibit, built in 1863, in the steam engine collection in the Birmingham Museum of Science and Industry. Illustrations by courtesy of the City of Birmingham Museum and Art Gallery.

It is good to be able to record that some fine examples of steam engines have found a home in public museums for, if their day is done, they gave long and faithful service and, after all, the steam engine made our present industrial economy possible. There are, however, many problems in the preservation of steam engines, two of which in particular may be mentioned. These are: which of the many different types should be kept, and how can they best be shown to the public in a "lifelike" manner?

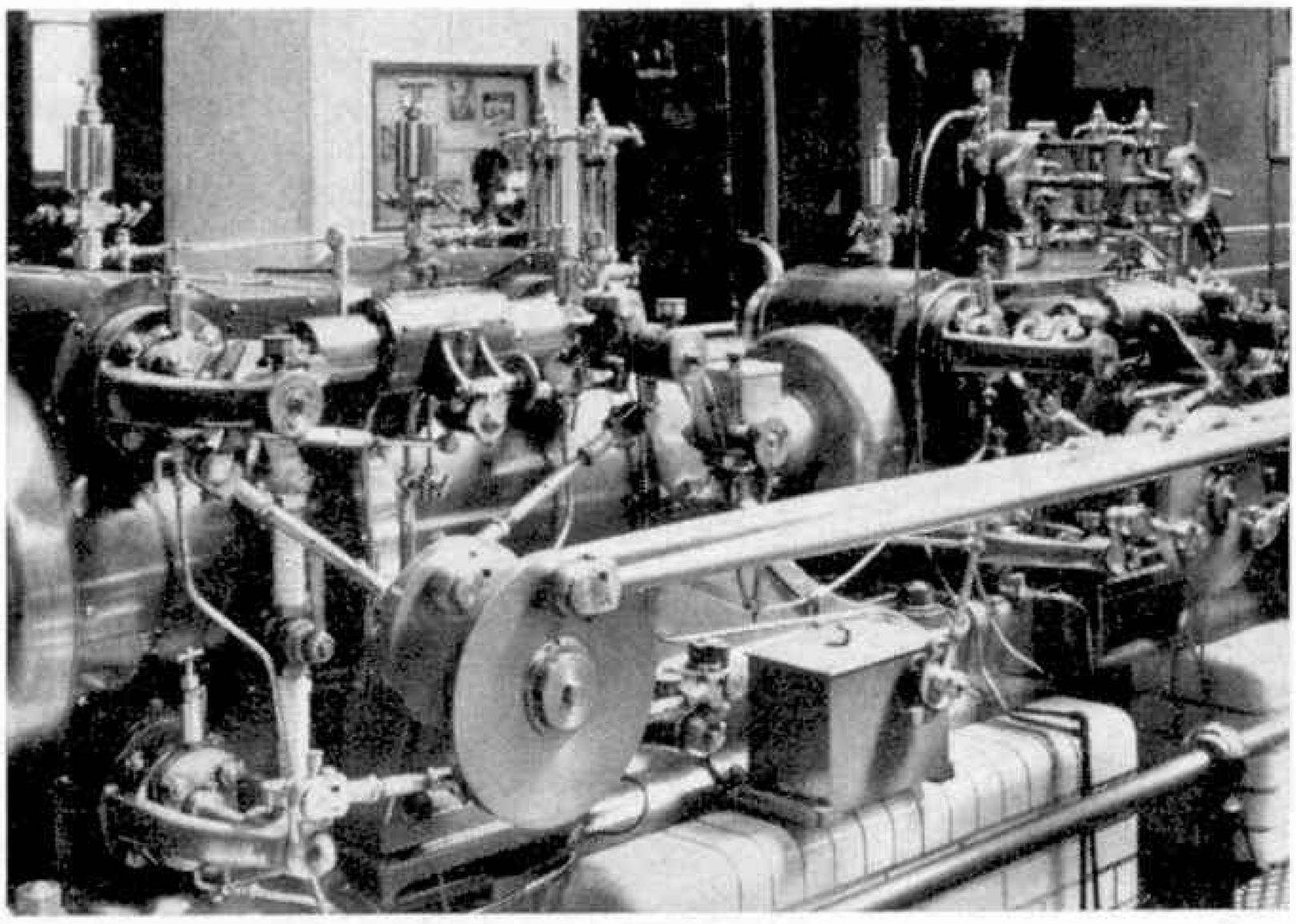
In certain cases the first of these problems solves itself. Some of the engines which have stopped work in recent years are so big that to move them to a museum would be out of the question. One known to the writer, for example, is nearly 50 feet high and has a flywheel weighing about 40 tons; another, of the Cornish beam type, has a cylinder 90 inches in diameter and weighs about 125 tons. Indeed, with all its associated pumping gear the engine totals about 687 tons. Such engines can only be preserved, if at all, *in situ*.

There were, however, many smaller engines, which could reasonably be moved to a museum, and in the last few years quite a number have been offered by their owners for preservation in such a way. Which of these should be kept? It is not sufficient that an engine should be of a rare type. On the contrary, it may even be a bad thing to keep such an engine. It might be a freak design, which proved nothing at all, except, perhaps, how not to design an engine. On the other hand, there were some engines which were outstandingly successful in their particular field and were made in their hundreds, or even thousands. Specimens of these types are certainly worth preserving, for they represent real engineering progress. So the choice of an engine must be made on its merits, with a leaning towards the successful type. Finally, there is the problem, once the engine has been chosen and brought to its new home, of how to display it to best advantage.

Faced with Many Problems

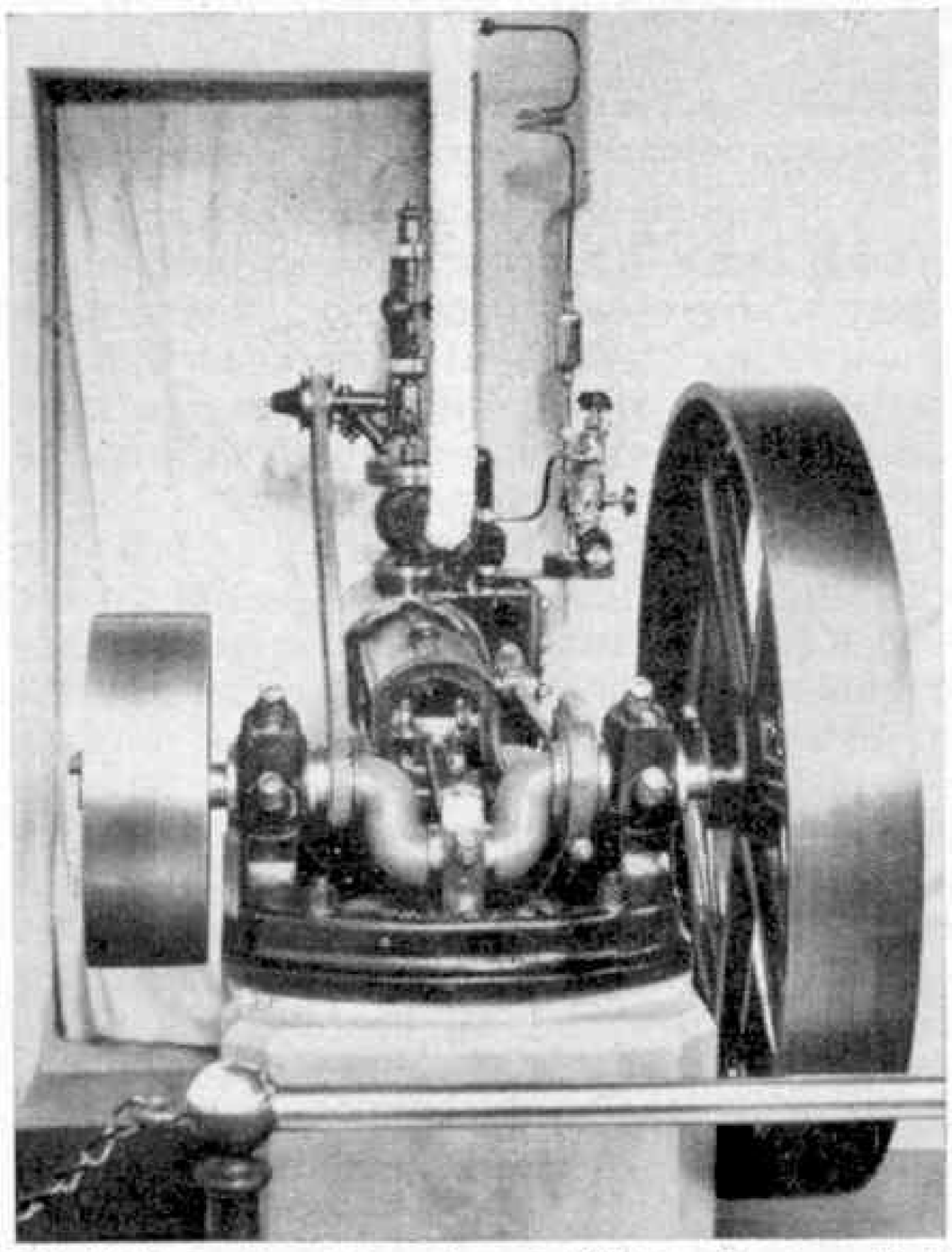
Birmingham Museum of Science and Industry, Newhall Street, Birmingham 3,

has found a good answer to both problems. In its nine years' existence the museum has built up a fine collection of exhibits (of which steam engines, incidentally, represent only one section) and has developed a highly individual approach to the question of display. The underlying principle of the museum's displays is that everything shall be as lifelike and natural as possible.



A mass of complicated valve gear in a compound engine of 1909.

In the case of the steam engines there are two possible ways of achieving this effect: they can be driven by compressed air or an electric motor, or they can be run, as they were during their working life, on steam. Many museums have used the former method to good effect, and there are some engines so driven in Birmingham Museum. But four of the engines at Birmingham are arranged to run on steam. In this respect, the museum has broken new ground for, as far as is known, this is the first "live" steam display to be opened to the public.



This little horizontal engine of 1891 is of a type that was made in thousands.

There are many problems to be overcome in running steam engines in a museum, not the least of which is the supply of steam itself. Then there has to be a suitable source of water for the engine condensers, and the staff of the museum have to know how to operate and maintain the engines. At present the Birmingham engines are run with steam from the boilers which heat the building, and they can only be shown in steam during the winter, when the heating system is in use. Provision is made in the museum's plans for installing a suitable boiler which will itself form a working exhibit, so that the engines can be run throughout the year, but for the present they operate to a programme at set times, from about October to the end of March. A rota system allows for one of the engines to be run every day from noon to 2 p.m., and on the first Wednesday in each month several are in steam together from 10.30 a.m. to 9 p.m.

The oldest engine in steam is a compound beam engine built by Easton, Amos and Sons in 1863. With a high pressure cylinder 12½ inch diameter and 25 inch stroke, and a low pressure cylinder 20 inch diameter and 36 inch stroke, the engine delivers about 30 h.p. when running at 32 r.p.m. with steam at 40 lb. per square inch. It represents a type of engine which was very popular in the nineteenth century.

Next in chronological order comes, not actually a steam engine, but a 3-cwt.

steam hammer which has much in common with a simple type of engine. Built by B. and S. Massey in 1878, it is arranged to run with short strokes. It is obviously not practicable to allow the actual hammer or "tup" to strike the anvil.

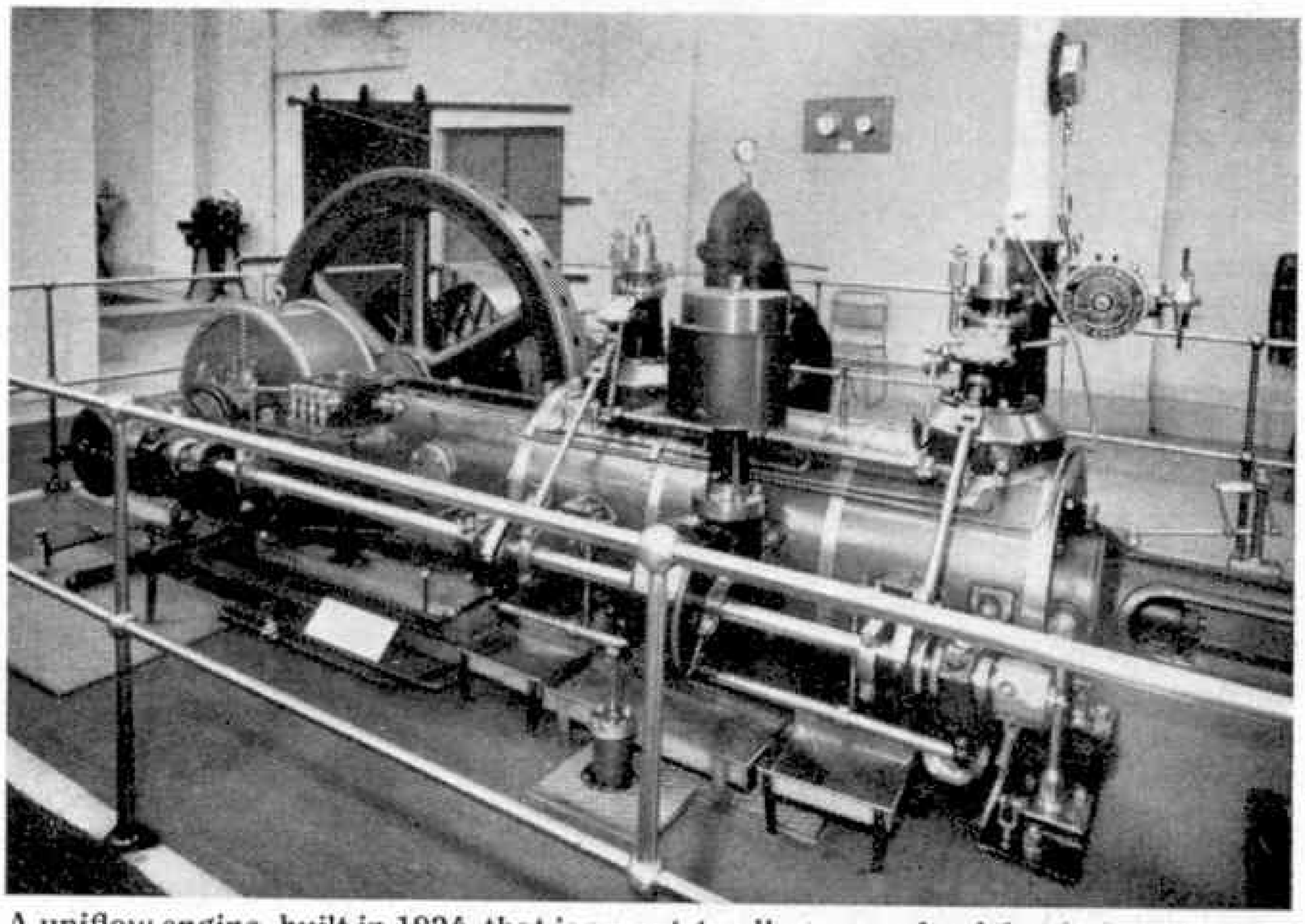
A little younger, the next exhibit, a Tangye "Colonial" engine of 1891, is representative of a very popular class of engine of its time. Small, simple and robust, this little engine, which delivers about 6½ h.p. from its single cylinder 4½ inch diameter and 7 inch stroke, was the common, general-purpose machine, doing in its day the work done by the small electric motor of the present time.

Old in Principle

Youngest of all the engines at present in steam is a Galloway uniflow engine of 1924. This has a cylinder of 12½ inch diameter and 26 inch stroke and, running at 204 r.p.m., with steam at 120 lb. per square inch, it would give 63.6 h.p. The uniflow system is very old in principle, dating, in fact, back to 1825, but it was not until about 1908 that it became a practicable proposition, difficulties of construction having delayed its adoption for many years. When it was finally perfected, the uniflow engine became very popular, and hundreds were made.

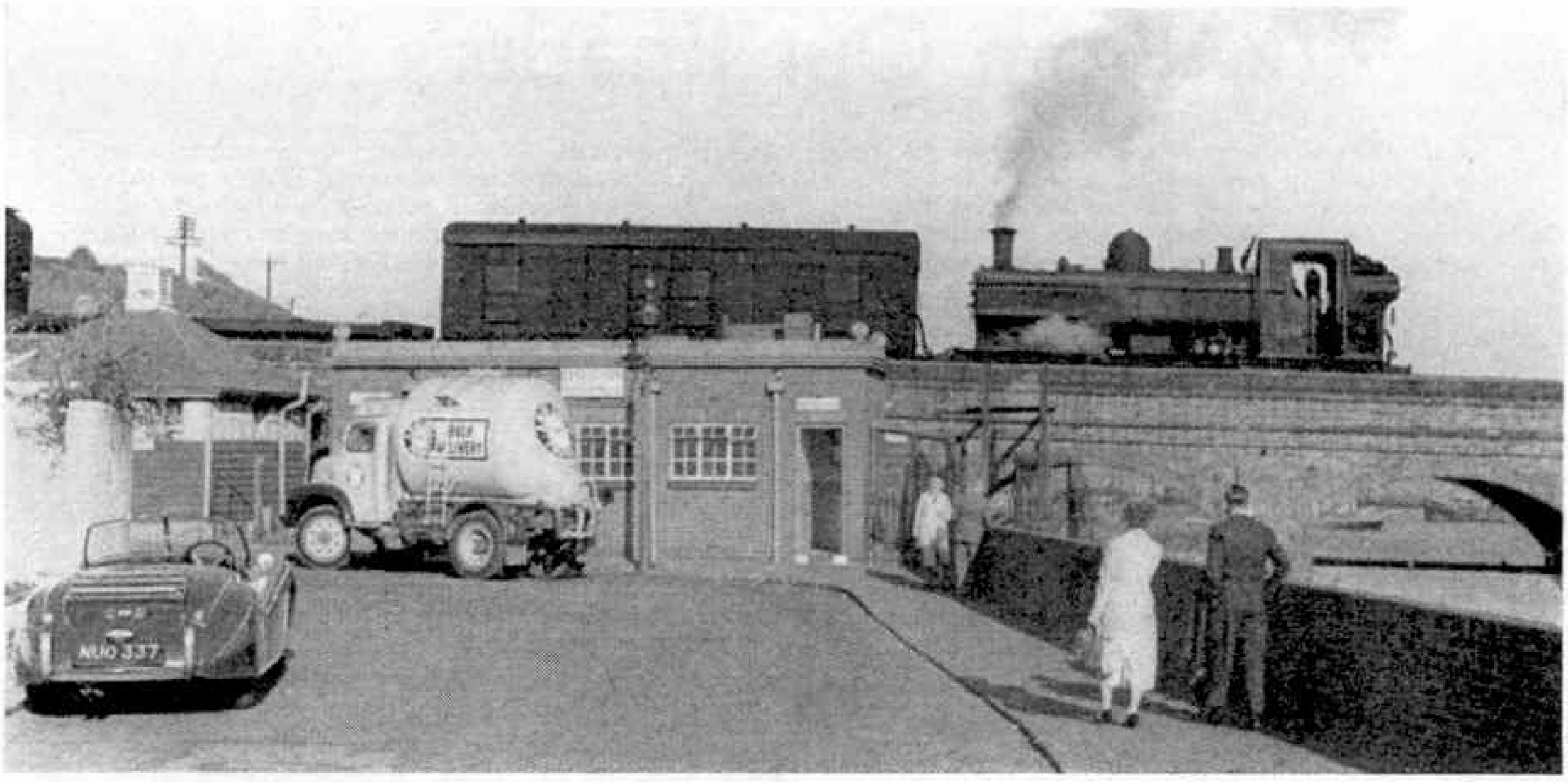
In a uniflow engine the live steam enters through valves at each end of the cylinder alternately, just as in an ordinary engine, but after the steam has done its work on the piston, it leaves through a ring of exhaust ports at the centre of the cylinder. There are no exhaust valves. In this it differs from the conventional engine in which the steam enters and leaves alternately at each end of the cylinder, so causing a repeated heating and cooling of the cylinder ends and a loss of heat which has to be made good by fresh steam from the boiler. As a result, the uniflow engine is more economical. The uniflow engine calls for meticulous design of the inlet valves and control gear, and in the Galloway engine at Birmingham the steam engine designer's and builder's art is to be seen at its best. Most uniflow engines were of large size, and the Birmingham engine is a comparatively rare example of the smaller type. Many of the larger engines drove textile mills, but electrification has reduced their numbers drastically, and few are left now.

Finally, there is a little engine which, at first sight, might be thought to be a scale model. It was, however, very much a working engine, for it was used to provide the power for the old style organs used by travelling fairs. Made by Savages, of King's Lynn, who were famous builders of steam fairground machinery, this engine has another claim to attention. It was the first engine to run at Birmingham on steam, the successful experiment which showed the present display to be practicable.



A uniflow engine, built in 1924, that is an outstanding example of the designer's skill.

So, in the Engineering Hall at Birmingham Museum, it is possible to see and study at leisure various types of steam engine ranging from a beam engine of 1863 to an advanced design of 1924, not only all complete and in working order, but, at certain times, actually working. There is no real substitute for running a steam engine on steam. All sorts of questions arise in our minds when we think of steam engines. How did all the various parts work; how fast did the engines run; were they quiet or noisy; did they vibrate? What could answer those questions better than "live" engines? Birmingham Museum has brought them to life and they will speak for themselves.



Photograph by C. A. Gosling

A Famous Folkestone Feature

Boat Train Climb from Harbour Station

By R. A. H. Weight

WHEN passing through Folkestone, on an embankment and then over a viaduct, travellers along the S.R. London–Dover main line, via Ashford, can see right over much of the town to the sea. To them the outer harbour and the protecting breakwaters, quayside sheds and station appear rather far off and decidedly "a long way down". It is to and from the Harbour Station that Folkestone boat trains run, for the town is the port for certain Anglo-French passenger, mail and cargo services.

Boat train handling at Folkestone is fraught with difficulties, and the line is somewhat exposed to the weather. The main problem is the difference in level, already referred to, between the main line and Folkestone Harbour Station. The two-track Harbour branch, about a mile long, includes an extremely steep 1-in-30 gradient, and on it there are level crossings, viaducts and a swing bridge over salt water. The ride is, indeed, an exceptional one over a section of railway normally traversed by Continental passengers only.

All the boat trains, whether empty or loaded, require the use of two or more engines up from the Harbour, according to weight. Only small, light types of tank locomotive are permissible. For many years until quite recently these duties were in the hands of the R 0–6–0T class, built before the end of the last century by the former South Eastern Railway for shunting or short local freight duty, or of rebuilds classified as R1. In their original form these were domeless and had narrow, round cabs, and there were several variations. For the heaviest trains, weighing often more than 400 tons, three of those little veterans would be seen in front with another, coupled in rear to the last vehicle, pushing hard at the back. The whole performance, in both sight and sound, was tremendously impressive.

Their long service had to come to an end, however, and some have been scrapped. As there was no suitable S.R. replacement, G.W.R. type 0–6–0 pannier tank engines of entirely different appearance, squat and tough, are now in service there. They are more powerful than their predecessors, and not more than two ahead and one astern appear to meet heaviest requirements.

One locomotive takes these expresses down the incline, experienced drivers having the braking well in hand, and provision is made for train heating. The photograph above shows empty stock being assisted in rear from Folkestone on its way to Dover to connect with the inward steamer for the return working to Victoria, London, of the *Golden Arrow*.

From Our Readers

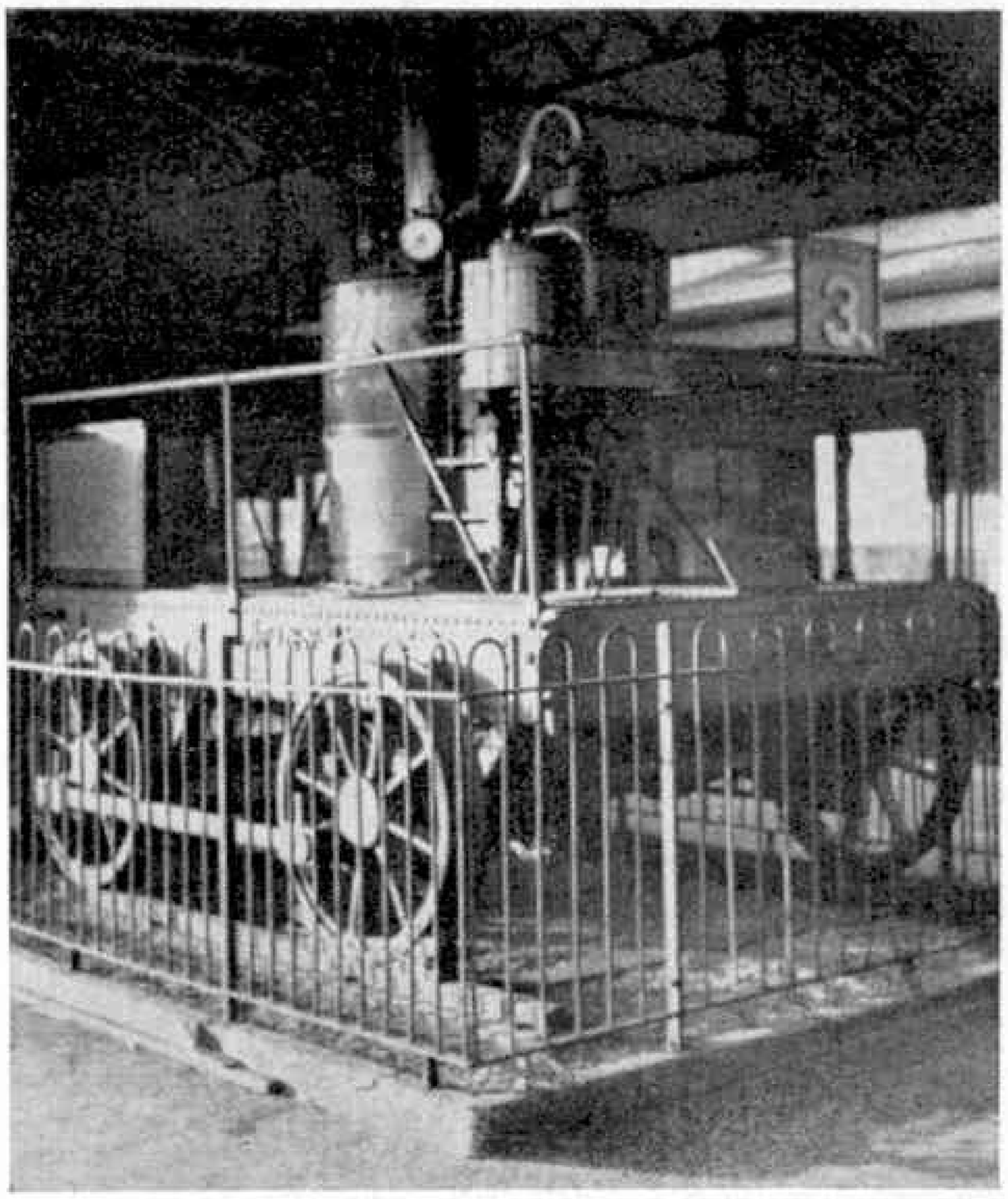
This page is reserved for articles from our readers. Contributions not exceeding 500 words in length are invited on any subject of which the writer has special knowledge or experience. These should be written neatly on one side of the paper only, and should be accompanied if possible by original photographs for use as illustrations. Articles published will be paid for. Statements in articles submitted are accepted as being sent in good faith, but the Editor takes no responsibility for their accuracy.

Last Survivor of its Class

An interesting relic can be seen on the station platform at Newton Abbot, Devon. It is the last surviving Broad Gauge locomotive in existence. As the photograph shows, it forms a striking contrast with the modern diesels that frequently pass by only a few feet away. A descriptive plate on the engine carries the following inscription: "Broad Gauge Engine Tiny. Tiny was built by Messrs. Sara & Co., Plymouth, for the South Devon Railway 1868 and until that railway was taken over by the Great Western in 1876 was employed shunting, etc., in the Newton Abbot yard. The G.W.R. number was 2180.

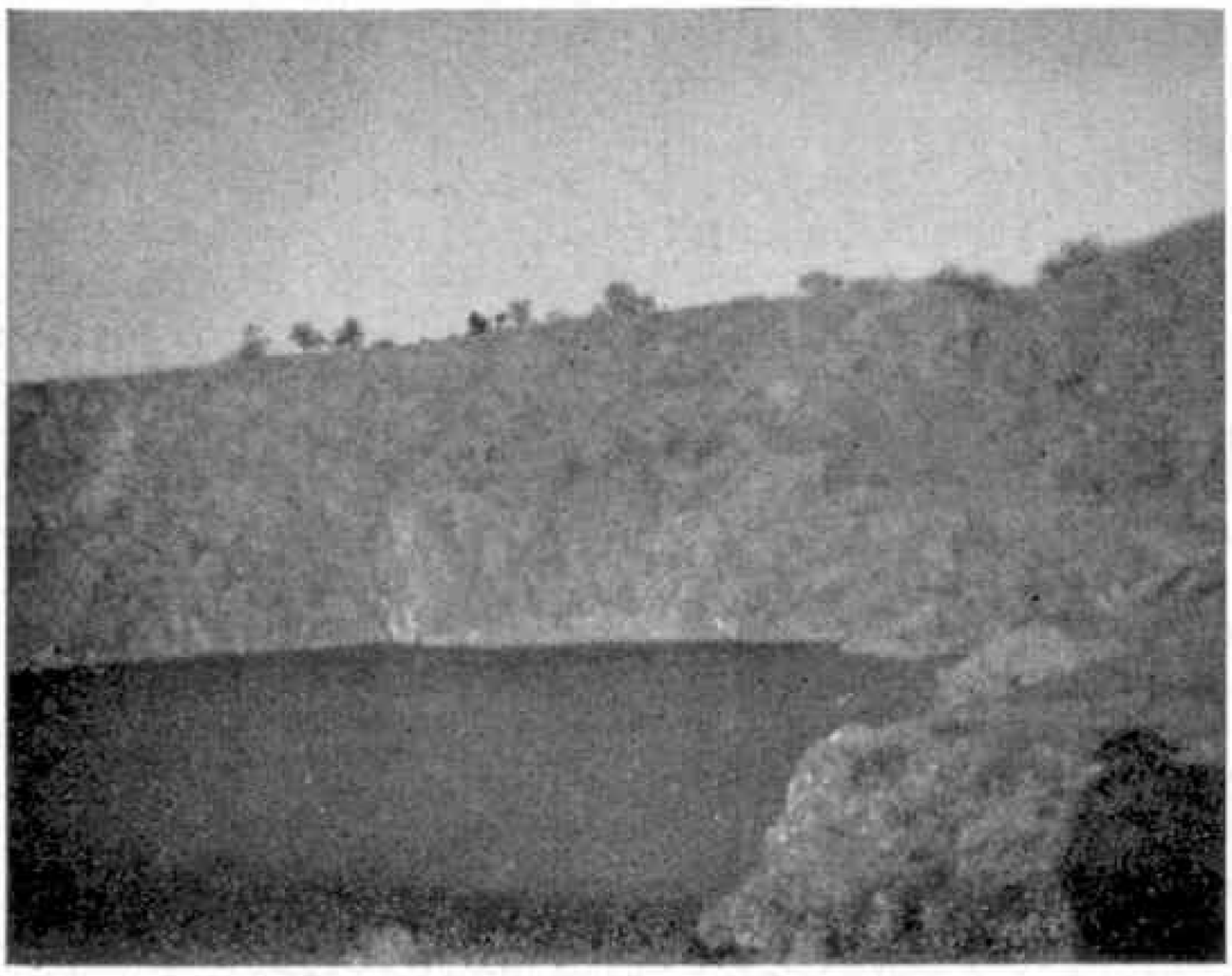
"The last 7′ 0″ gauge locomotive in the world, this engine was still in service as a spare stationary engine for working the pumps in the boiler house at Newton Abbot until 1927.

"Its four wheels (all coupled) are 3′ 0″ diameter, and it has a tubeless vertical boiler 6′ 3″ in height and 2′ 8½″ diameter, with a firebox 2′ 4¼″ diameter. The grate area is 6·137 sq. ft. The tank is formed in the underframe and holds about 80 gallons of water, while coal was carried in a small bunker at one corner of the platform."



"Tiny", the last surviving Broad Gauge locomotive. Photograph by Cyril E. Wrayford, Bovey Tracey

CYRIL E. WRAYFORD (Bovey Tracey)



The old quarry at Cranmore, near Shepton Mallet, that is now a natural lake. Photograph by T. Hoddinott, Cranmore.

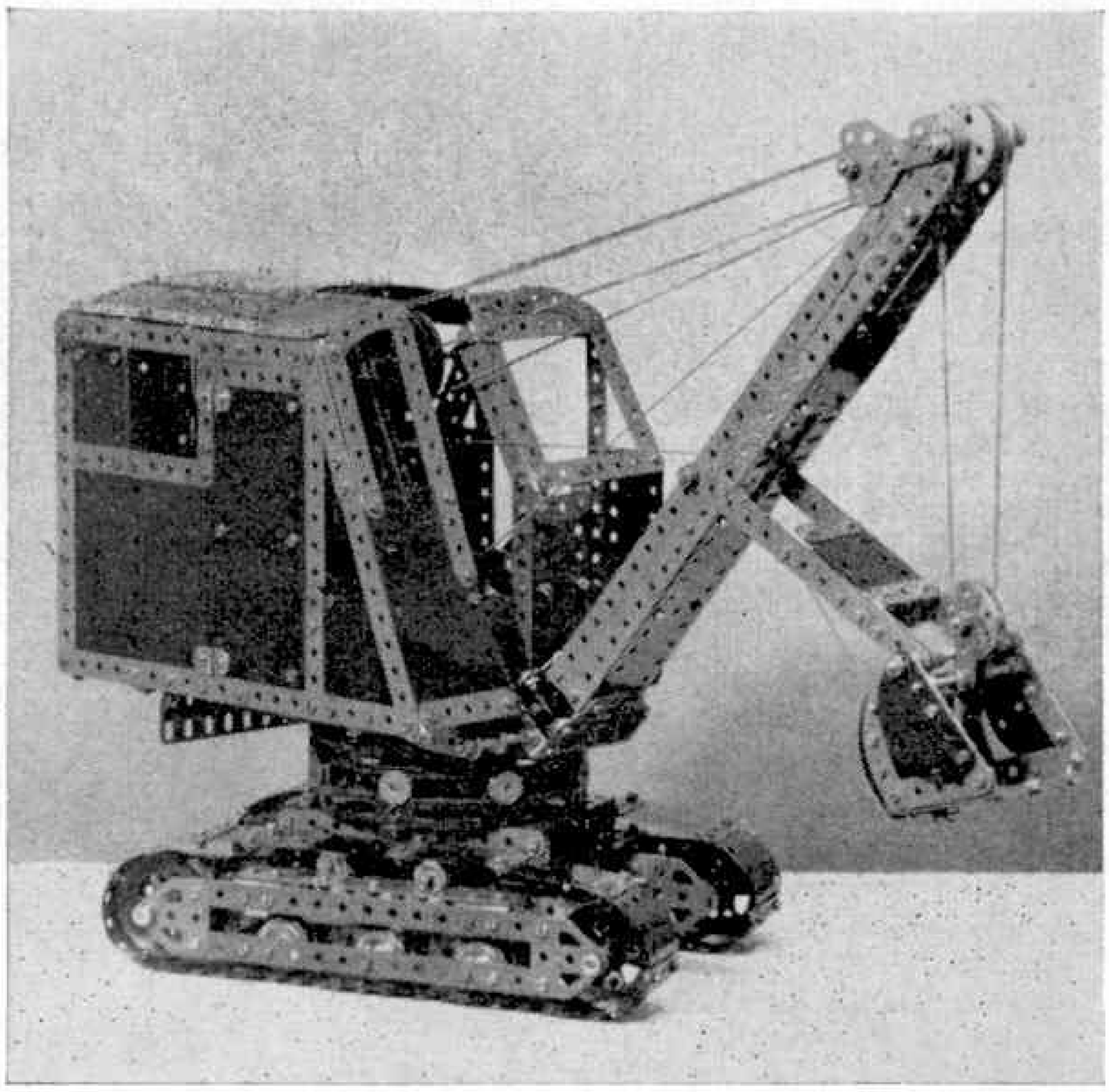
Old Quarry at Cranmore

At Cranmore, near Shepton Mallet, is a natural lake about 130 yards long and 100 yards wide. It has not always been a lake; it used to be a huge, deep quarry from which any accumulation of water was pumped out daily. To get stone from the bottom of the quarry two small steam engines were used and they ascended a cutting made in the rock. As each engine reached the top its two trucks were uncoupled and they continued, by electric traction, to the crushing machines. Then the quarry had to close down and gradually the big pit became filled with water. Now, in winter, its expanse is inhabited by a few wild geese.

TREVOR HODDINOTT (Cranmore)

Prizes for Model-Builders

Hurry with your Entry!



Have you ever won a prize in a Meccano competition? John Matthews, Fillongley, Coventry, did so with this fine model excavator. Why not set to work on a model now and try your luck in the competition announced on this page.

THE "Winter Model Building Competition" announced in last February's edition of the Magazine, closes on May 31, and we urge you to send in an entry at once, if you have not already done so. Models of any size and type are suitable as entries and many cash prizes are offered for the best received. You can take part in the contest even if your Outfit is only a small one and no matter what your age may be, for the judges will make full allowance on these points when deciding the winners.

All you have to do is to think of a new model and then to set to work to build it as neatly and realistically as possible from the parts available to you. The next thing is to obtain either a photograph of the model or make a good sketch of it, and send it to us. The actual model must not be sent. If you have not got a camera and you are not much good at sketching, you can ask a friend to make the sketch for you.

The competition is open to readers of all ages living in any part of the world, and is divided into two sections as follows: A, for competitors under 14 years of age on May 31 next; B, for competitors aged 14 years or over on that date. A separate set of prizes, details of which are given in the panel at the foot of this page, will be awarded in each section. The prizes will be awarded for those models that are the most original in subject and well proportioned.

The following notes will be helpful to you in preparing your entry, especially if you have not entered a Meccano contest before. You may choose any subject you like for your model, but be careful to select one you can reproduce realistically with the Outfit you possess. For instance, if you have only a small Outfit it would be difficult to make a really good model of a large and complicated crane. On the other hand, if you select a truck or windmill the probability is that you will be able to make a really good job of it. It will also help if you choose a model that works.

Before posting your entry take care to write your age, name and address on the back of each photograph or drawing. Address the envelope "Winter Model-Building Competition, Meccano, Ltd., Binns Road, Liverpool, 13."

Please note that all prizewinning entries become the property of Meccano, Ltd., but if your entry is unsuccessful it will be returned if a stamped, addressed envelope is sent for the purpose.

THE PRIZES

The following prizes will be awarded in each of the Sections A and B:

First Prize, cheque for	**£4**	**4**	**0**
Second Prize, cheque for	**£2**	**2**	**0**
Third Prize, cheque for	**£1**	**1**	**0**

Five Prizes each of 10s. 6d.
Five Prizes each of 5s. 0d.

Certificates of Merit also will be awarded.

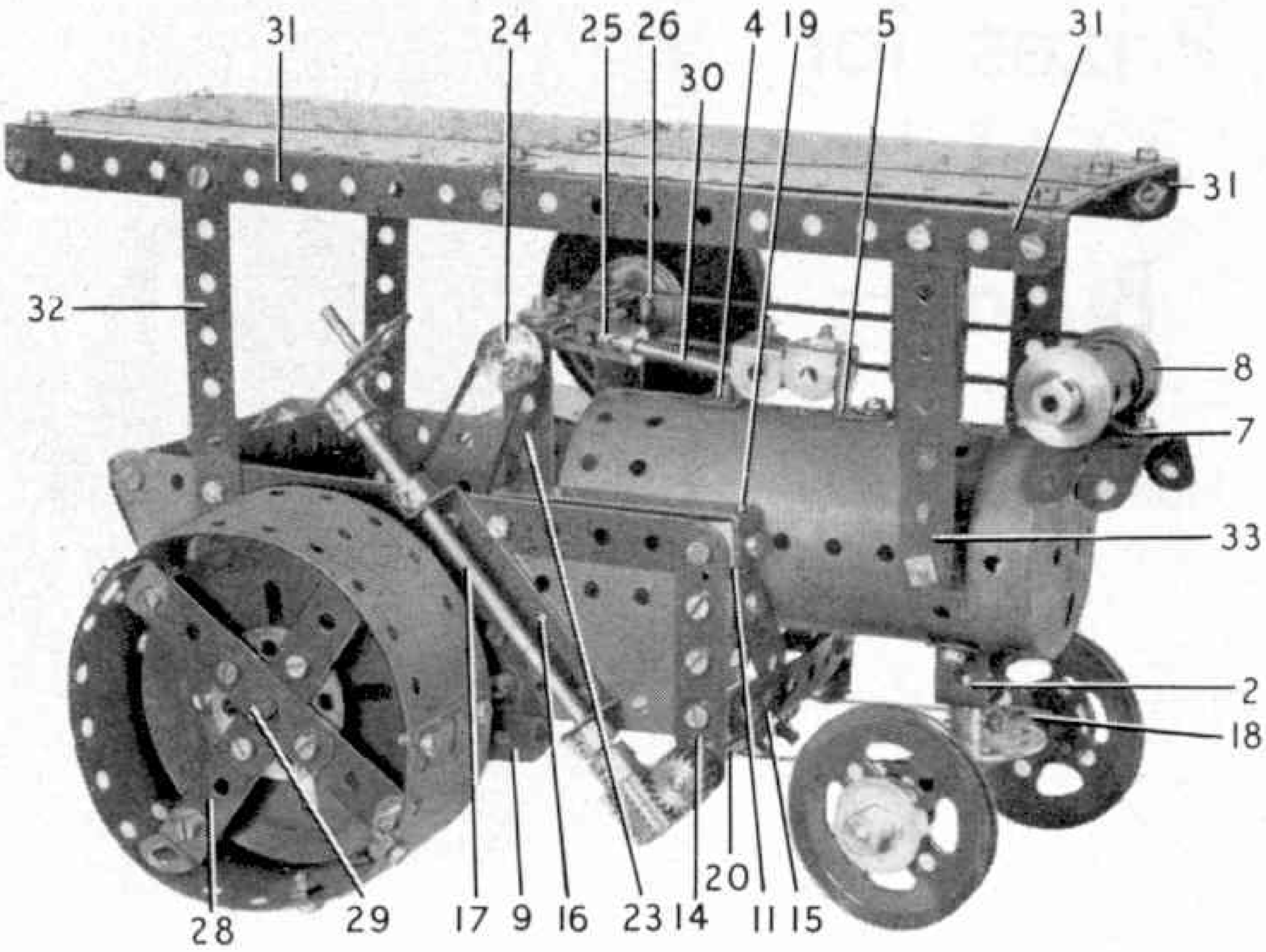


Fig. 1. A very happy hour or two can be spent in assembling this Traction Engine. All the parts used in it are contained in Outfit No. 7.

New Meccano Model:

Traction Engine (Outfit No. 7)

OWNERS of Outfit No 7 will find the Traction Engine shown in Fig. 1 a good subject for their attention. It was designed by H. H. Taylor, Huddersfield, and its constructional details are as follows.

A Boiler 1 has a Double Bent Strip 2 bolted to it at the front, and a nut and bolt at the rear. Two ½″ Reversed Angle Brackets 4 and 5, each with a Double Bracket attached, and a Chimney Adaptor and Sleeve Piece 6, are secured to the top of the Boiler as shown. The Boiler End is placed in position at the front, and on the nut and bolt securing this is a 1½″ Strip 7 that supports two 2½″ Strips, bent slightly, and a Sleeve Piece fitted with two ¾″ Flanged Wheels 8. A 3½″ × 2½″ Flanged Plate 9 is extended by a 5½″ Strip 10, and is attached by a Double Bracket 11 to the Boiler. On the inner end of Bolt 12 is an Angle Bracket that is bolted to another Angle Bracket fixed to the Boiler. Then a 2½″ × 1½″ Flexible Plate 13 is bolted to the Plate 9. A 2½″ Strip 14, fastened to the Strip 10 and the Flexible Plate 13 has three Angle Brackets bolted to it, the lower pair being connected by a 3″ Strip 15. A 1½″ Strip is attached to one of the other Angle Brackets and placed behind the Strip 15. On one side a 2½″ × ½″ Double Angle Strip 16 is bolted and this supports a 4″ Rod 17 that is held in position by Collars. A Crank with a Threaded Pin is secured at one end of this Rod, and at the other end is a Worm Wheel. A 3½″ Rod 20 is passed through the Strips 14 and fitted with a ½″ Pinion and a Collar

Next a 2½″ × ½″ Double Angle Strip 18 is bolted to a Bush Wheel mounted on a Rod placed in the Double Bent Strip 2 and the Boiler, and a Collar is used to hold it in position. Two 2″ Pulley Wheels are mounted freely on a 4½″ Rod together with two fixed ¾″ Flanged Wheels. 2½″ × ½″ Double Angle Strips 19 are bolted to the Double Bracket 11. A length of Cord is fastened to the Double Angle Strip 18, after being wound a few turns around the Rod 20. Spring Clips on this Rod help the Cord to grip.

The rear of the cab consists of two 2½″ × 2½″ Flexible Plates bolted to the Flanged Plate 9. Two 2½″ × 1½″ Triangular Flexible Plates are attached to the Flanged Plate 9, and then two 2½″ × 2½″ Flexible Plates 21 are added, these being attached to the

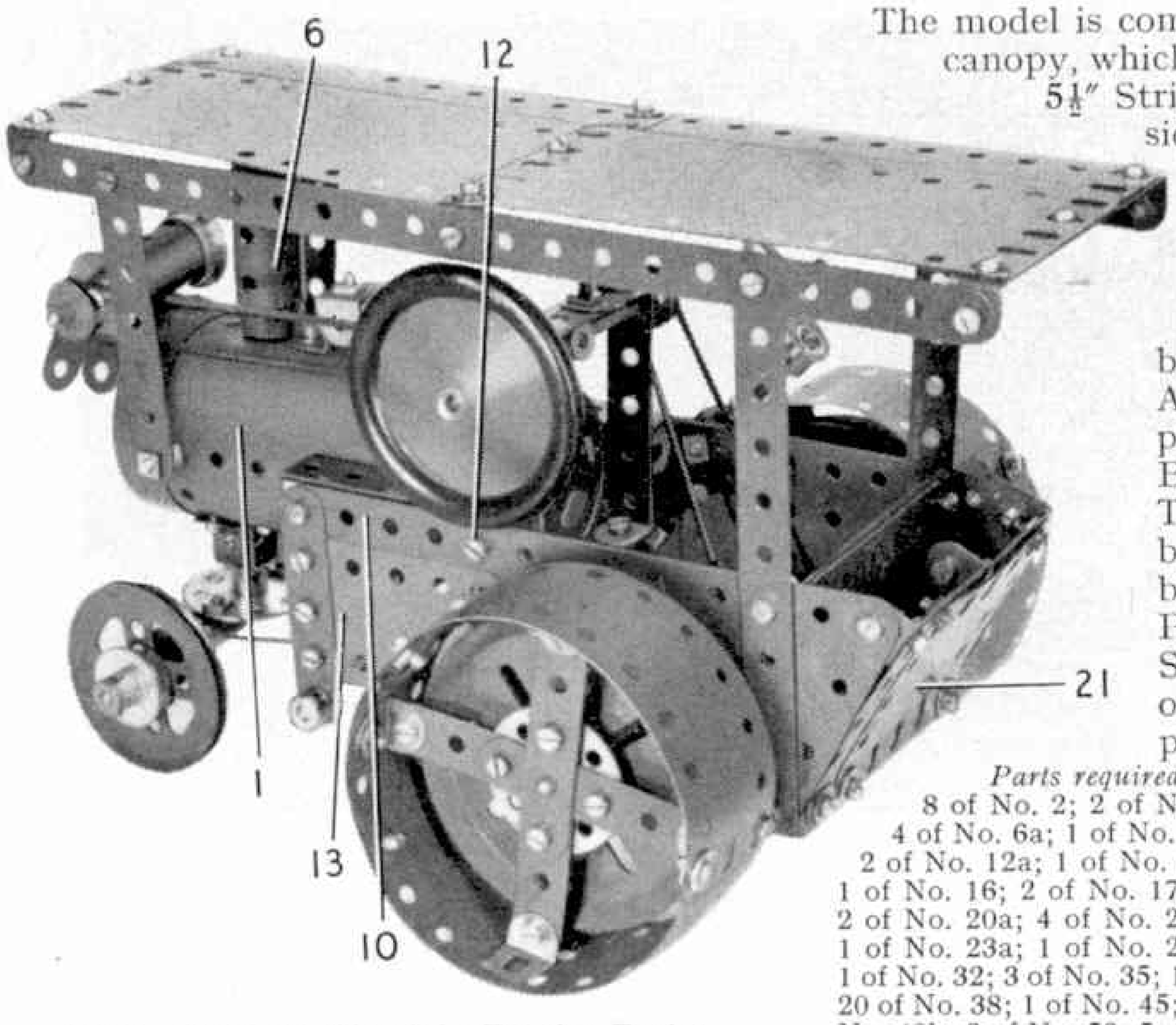


Fig. 2. The near side of the Traction Engine.

Triangular Flexible Plates by two $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips.

Two $1'' \times 1''$ Angle Brackets 22 bolted to the Flanged Plate 9, are each extended by means of $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips 23 which are connected at their upper ends by a $1\frac{1}{2}''$ Strip and a Fishplate. On a $3\frac{1}{2}''$ Rod that is pushed through the Double Angle Strips 23, a $\frac{1}{2}''$ Pulley Wheel 24, a Coupling 25, a $1''$ Pulley 26, and a Road Wheel are fixed. A $2''$ Rod, with a $\frac{1}{2}''$ Pulley secured to it, is mounted in the bosses of the Flanged Wheels 8, and the $\frac{1}{2}''$ Pulley 24 and $1''$ Pulley 26 are linked with a $10''$ Driving Band.

To assemble the rear wheels two $2\frac{1}{2}''$ Strips are bolted to an eight-hole Wheel Disc by $\frac{1}{2}''$ or $\frac{3}{4}''$ Bolts, and two more $2\frac{1}{2}''$ Strips are attached at right-angles by $\frac{3}{8}''$ Bolts. At the ends of the Strips Angle Brackets are fixed. The Wheel Disc is fastened to a $3''$ Pulley Wheel with the $\frac{3}{4}''$ or $\frac{1}{2}''$ Bolts, with nuts on each side of the Pulley Wheel to space it away. The rims consist of two $5\frac{1}{2}'' \times 1\frac{1}{2}''$ and a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate. These are curved and bolted to two of the Angle Brackets. The Wheels are secured to a $6\frac{1}{2}''$ Rod 29, held centrally in the body by a $1''$ Pulley and a Collar. The $1''$ Pulley is linked by a Driving Band with the $\frac{1}{2}''$ Pulley 24.

A $2''$ Rod 30 fixed in the Coupling 25, is placed in the $\frac{1}{2}''$ Reversed Angle Bracket 4.

The model is completed by building the canopy, which is made by joining two $5\frac{1}{2}''$ Strips 31 together on each side and then connecting the two sides by a $3\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip at each end. Four $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates are bolted to the Double Angle Strips and supported with Angle Brackets in the centre. The canopy is supported by two $5\frac{1}{2}''$ Strips 32 bolted to the Flanged Plate 9 and two $3\frac{1}{2}''$ Strips 33 which are fixed on a $3''$ Screwed Rod passed through the Boiler.

Parts required to build the Traction Engine:
8 of No. 2; 2 of No. 3; 2 of No. 4; 12 of No. 5; 4 of No. 6a; 1 of No. 10; 4 of No. 11; 18 of No. 12; 2 of No. 12a; 1 of No. 14; 1 of No. 15; 2 of No. 15a; 1 of No. 16; 2 of No. 17; 1 of No. 18a; 2 of No. 19b; 2 of No. 20a; 4 of No. 20b; 2 of No. 22; 1 of No. 23; 1 of No. 23a; 1 of No. 24; 2 of No. 24a; 1 of No. 26; 1 of No. 32; 3 of No. 35; 130 of No. 37a; 120 of No. 37b; 20 of No. 38; 1 of No. 45; 2 of No. 48; 6 of No. 48a; 2 of No. 48b; 2 of No. 53; 5 of No. 59; 1 of No. 62; 1 of No. 63; 1 of No. 80c; 2 of No. 111; 2 of No. 111a; 1 of No. 115; 2 of No. 125; 1 of No. 162; 2 of No. 163; 1 of No. 164; 1 of No. 186a; 1 of No. 186b; 1 of No. 187; 4 of No. 188; 4 of No. 189; 4 of No. 190; 4 of No. 192; 2 of No. 221.

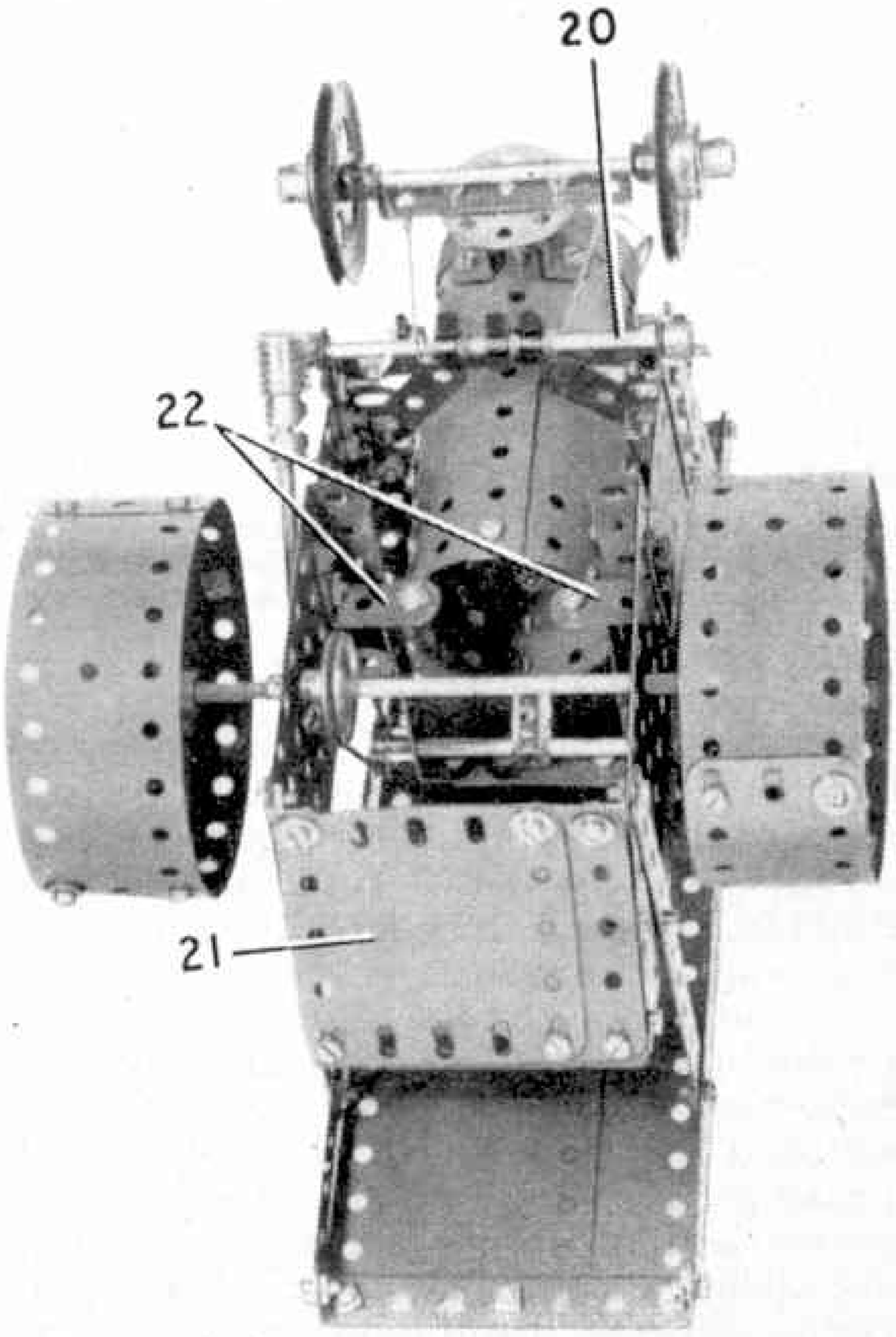
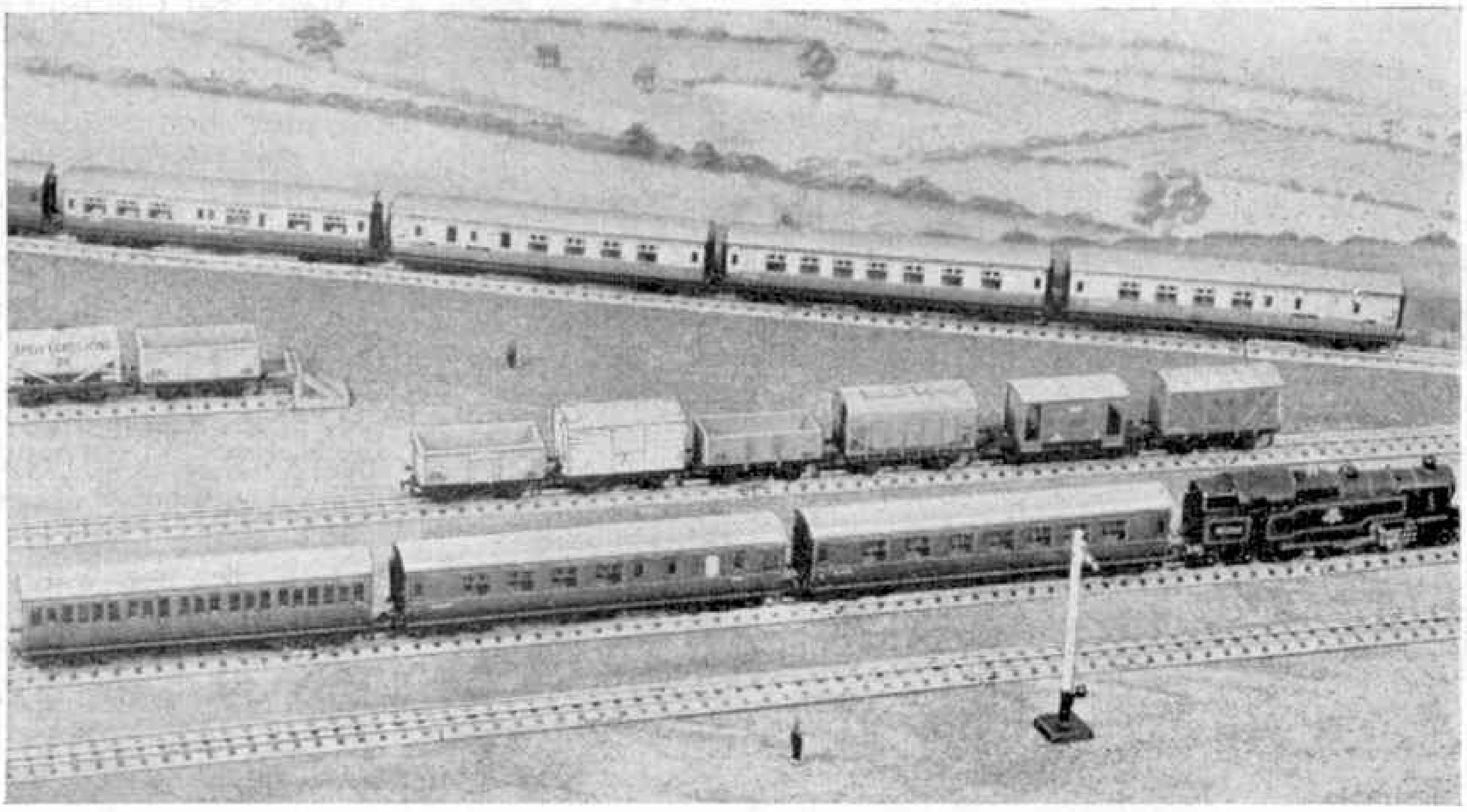


Fig. 3. An underneath view of the Traction Engine.



HORNBY RAILWAY COMPANY

By the Secretary

Some Southern Schemes

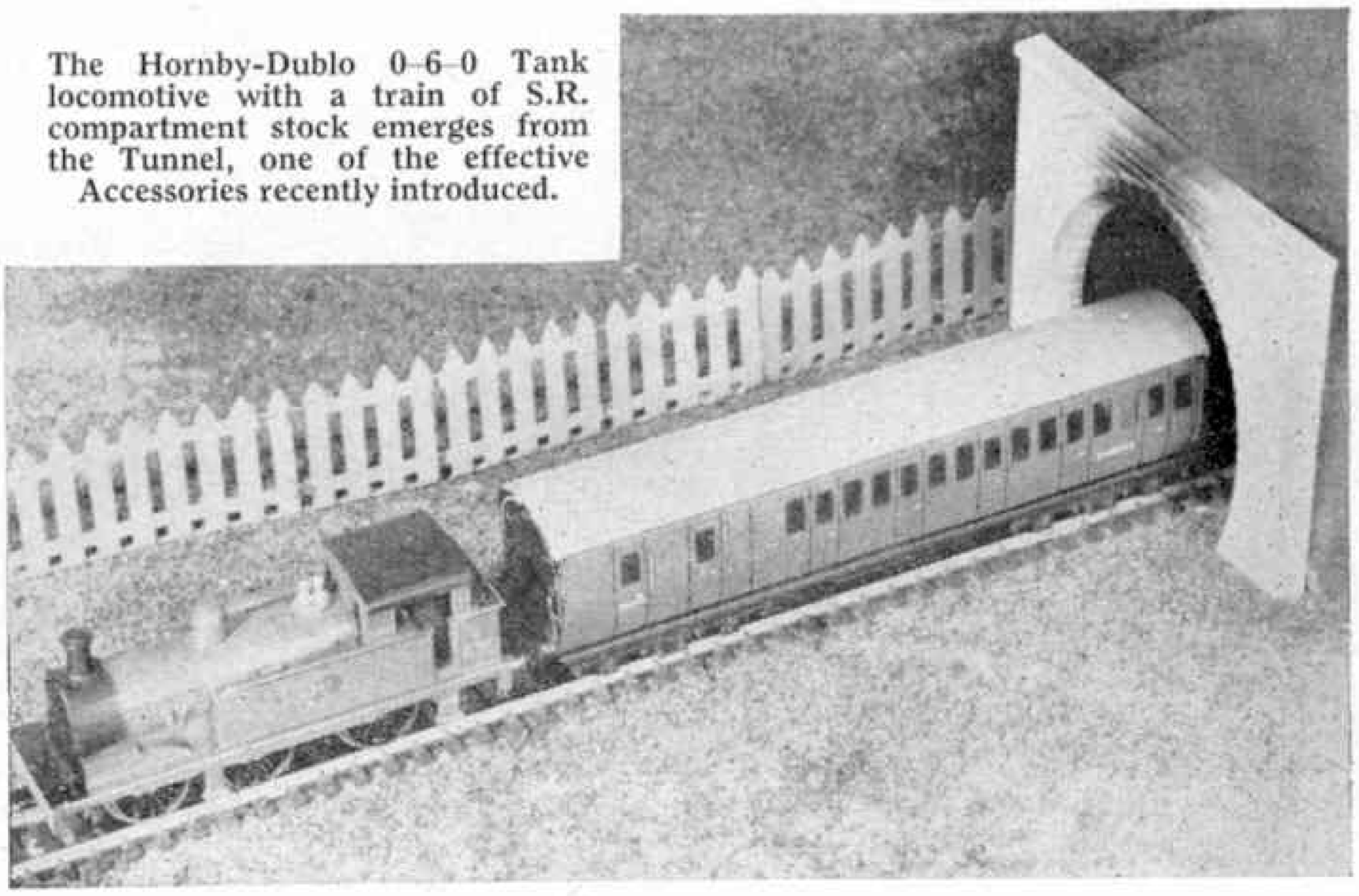
THE introduction last autumn of the Hornby-Dublo 0–6–0 Tank Locomotive, the first engine to appear in the new Two-Rail system, was widely welcomed by Gauge 00 enthusiasts. Those beginning Hornby-Dublo Two-Rail systems have found it an ideal engine with which to start off.

Apart from the appealing outline of this engine, it marked the advent in Hornby-Dublo of a locomotive of truly Southern character. Older enthusiasts will recall that the well-known Hornby-Dublo 0–6–2 Tank was available for some years in Southern livery and I know there are still a few of these engines in service on readers' layouts, but the 0–6–2 Tank in this form could not pretend to be a really representative Southern engine.

In addition to the Locomotive, the production of the compartment-type Suburban Coaches in S.R. green that are included in the Two-Rail 0–6–0 Tank Passenger Train Set, and which are, of course, available for separate sale as well, has delighted a whole host of Hornby-Dublo owners. The bright and attractive livery characteristic of S.R. stock is well reproduced and can strike a fresh note on an already well-stocked layout. The presence of Southern vehicles in the system means that greater variety in traffic working schemes becomes possible. The Coaches, like all current Hornby-Dublo Rolling Stock, are fitted with moulded wheels and can be run on Three-Rail as well as Two-Rail systems.

Above is a Three-Rail scene in which a Hornby-Dublo 2–6–4 Tank is hauling a train of corridor and non-corridor stock, representing a combined cross-country and local service.

Elsewhere in this issue Mr. R. A. H. Weight contributes some interesting notes on a group of Southern routes, known as the Oxted lines, over which a variety of steam trains is run. It would not be difficult to provide similar services in Hornby-Dublo, because many of the trains are taken by B.R. Standard 2–6–4 Tanks like No. 80032 in the lower illustration opposite. You all know that this is the type of locomotive represented by the Hornby-Dublo 2–6–4T, and the Two-Rail representative in the range actually carries the next serial number, 80033, of another of the class allocated to the Southern Region. This being so, you can work out all sorts of good operating ideas because, in addition to purely Southern traffic, various inter-regional through trains work over Southern



The Hornby-Dublo 0–6–0 Tank locomotive with a train of S.R. compartment stock emerges from the Tunnel, one of the effective Accessories recently introduced.

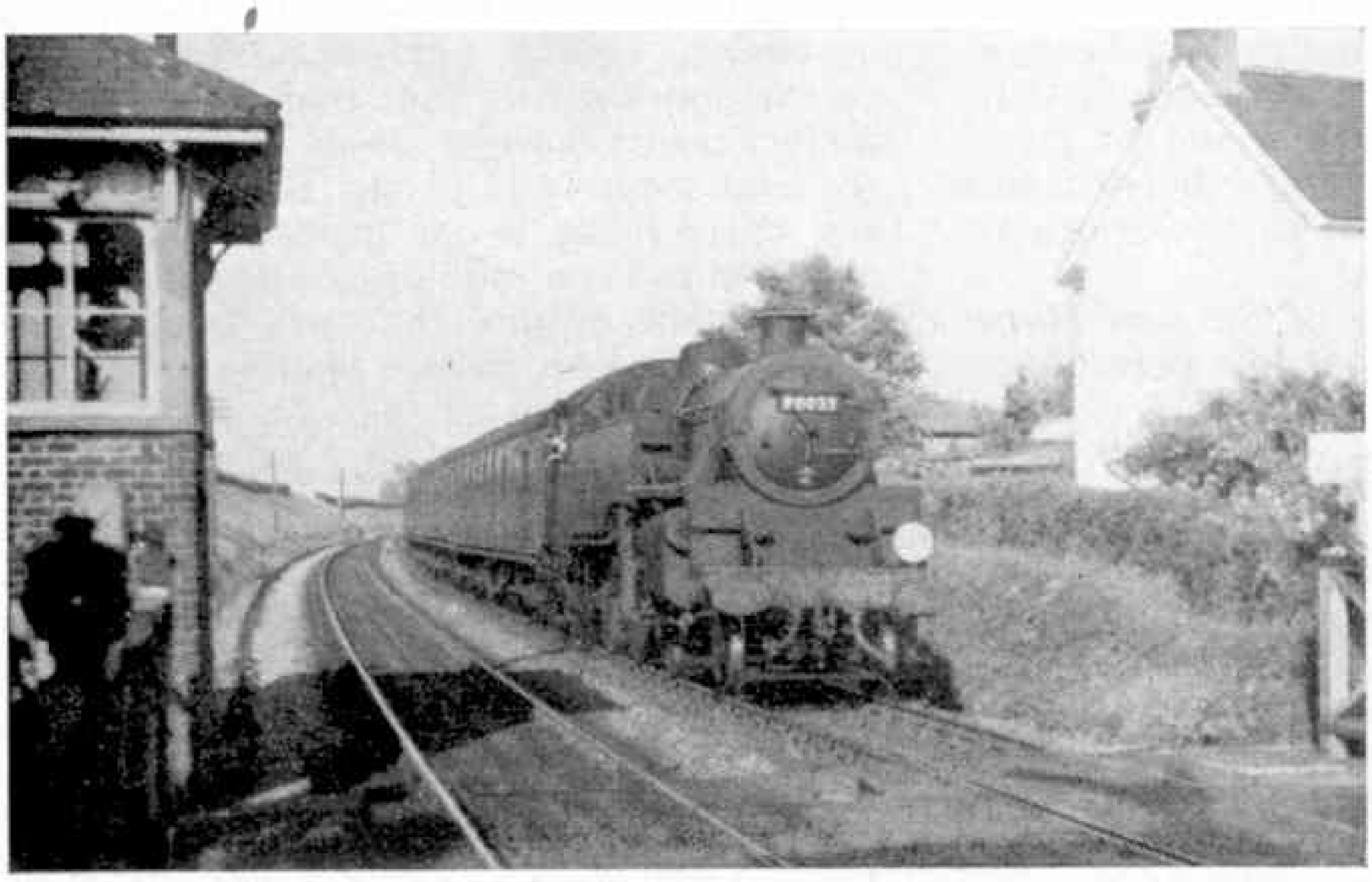
routes, bringing with them the maroon corridor stock so familiar in Hornby-Dublo as the D22 Corridor Coaches. Two of these are, in fact, included in the illustration at the head of this article, where a Three-Rail 2–6–4 Tank is hauling a mixed train of corridor and non-corridor stock. Some of you may point out that the Brake/2nd vehicle is in the middle of the train, but this sort of thing can happen on a train composed of several through sections that are added to or detached from the main formation at various stops.

I know many of you already work train services based on this sort of thing, but if you are one of those who have not already done so, you will be surprised at the interest and variety involved. I shall, of course, always be glad to hear about any particularly attractive schemes you develop.

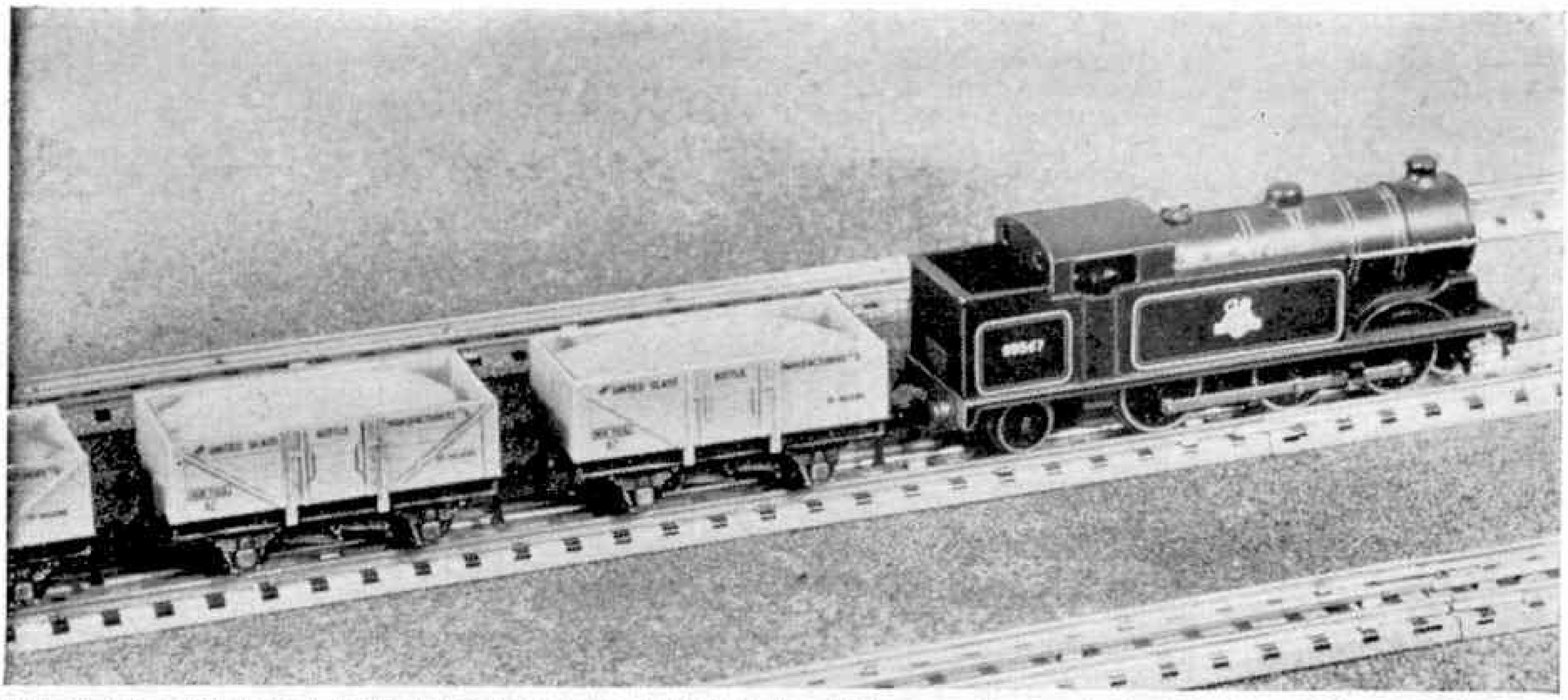
How do you like the Hornby-Dublo Tunnel shown in the upper picture here? This is an attractive addition suitable for single-line railways such as the Southern branch represented with Hornby-Dublo Two-Rail equipment in the picture. It is always good to include a tunnel on a layout if you can and that shown is ideal for Hornby-Dublo owners who have to take up their railways when train running is over Even if your engine disappears from view only momentarily, as it will when negotiating this little tunnel, it adds to the fun of working.

The Tunnel can readily be incorporated on a permanent layout and this will give you the chance to build up rather more of a hill than is provided by the covering that joins the tunnel ends together. The tunnel ends themselves are remarkably well moulded to represent a brick-built face, with the lining course—that is the "round" part of the tunnel—represented as well. The moulding is carried out to include the coping along the top, and the passage of trains through the tunnel is immediately suggested by the smoke effect apparent above the centre of the entrance.

Additional effects to give the impression that the tunnel really does bore under some obstacle will be readily possible on layouts permanently installed, and you will recall that numerous examples with built-up sections over tunnels have been shown in these pages.



B.R. Standard 2–6–4 Tank No. 80032 with a train from Tonbridge to Brighton. Photograph by J. A. Fleming.



The Hornby-Dublo 0–6–2 Tank heads a train of U.G.B. Sand Wagons along a typical stretch of Three-Rail track.

Rolling Stock News

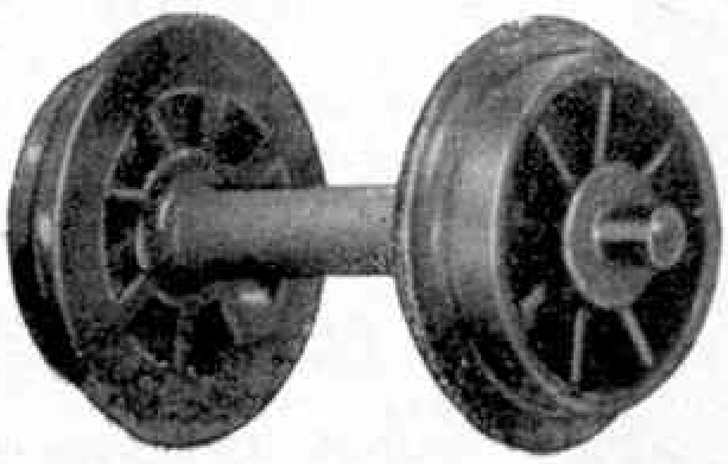
By "The Engineer"

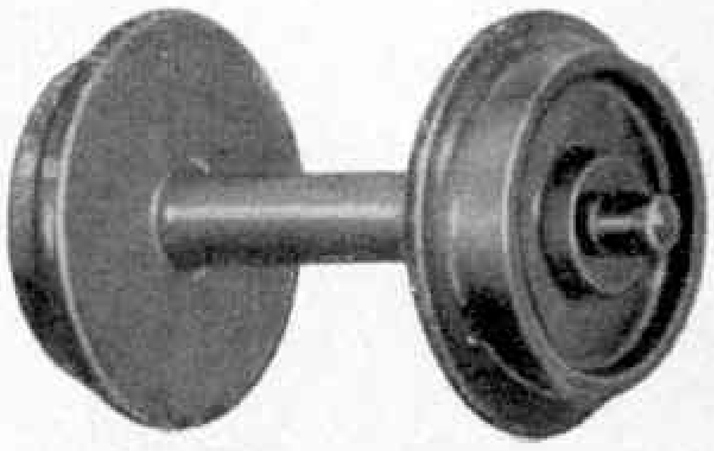
THIS month I have the pleasant task of telling you something about one or two of the new items of rolling stock recently made available in the Hornby-Dublo System. This is a job I always enjoy, not only because it records further progress in the development of Hornby-Dublo, but because I know that most of you eagerly welcome such details.

I have no pictures to show you of the new vehicles in use, but they do appear on the advertisement pages in this *M.M.* where you will see that the range of Hornby-Dublo stock with moulded bodywork has been expanded to include a Horse Box of B.R. Standard design. There are in effect two new models of the one vehicle, because it is made in two liveries, respectively B.R. maroon, and the striking shade of green employed for some of the new horse boxes that have been allocated to the Southern Region.

On the moulded body of the new Horse Box the fullest advantage has been taken of this form of construction to incorporate excellent detail. The horse compartment is provided with opening doors on each side of the vehicle and these are correctly modelled, the upper doors opening sideways while each lower door swings down to form a convenient ramp between the vehicle and the loading platform. When you use these doors you will find that, as in actual practice, the upper doors must be opened before the lower one can be moved and similarly the lower one has to be shut first when loading is complete. Then the upper doors can be secured in position.

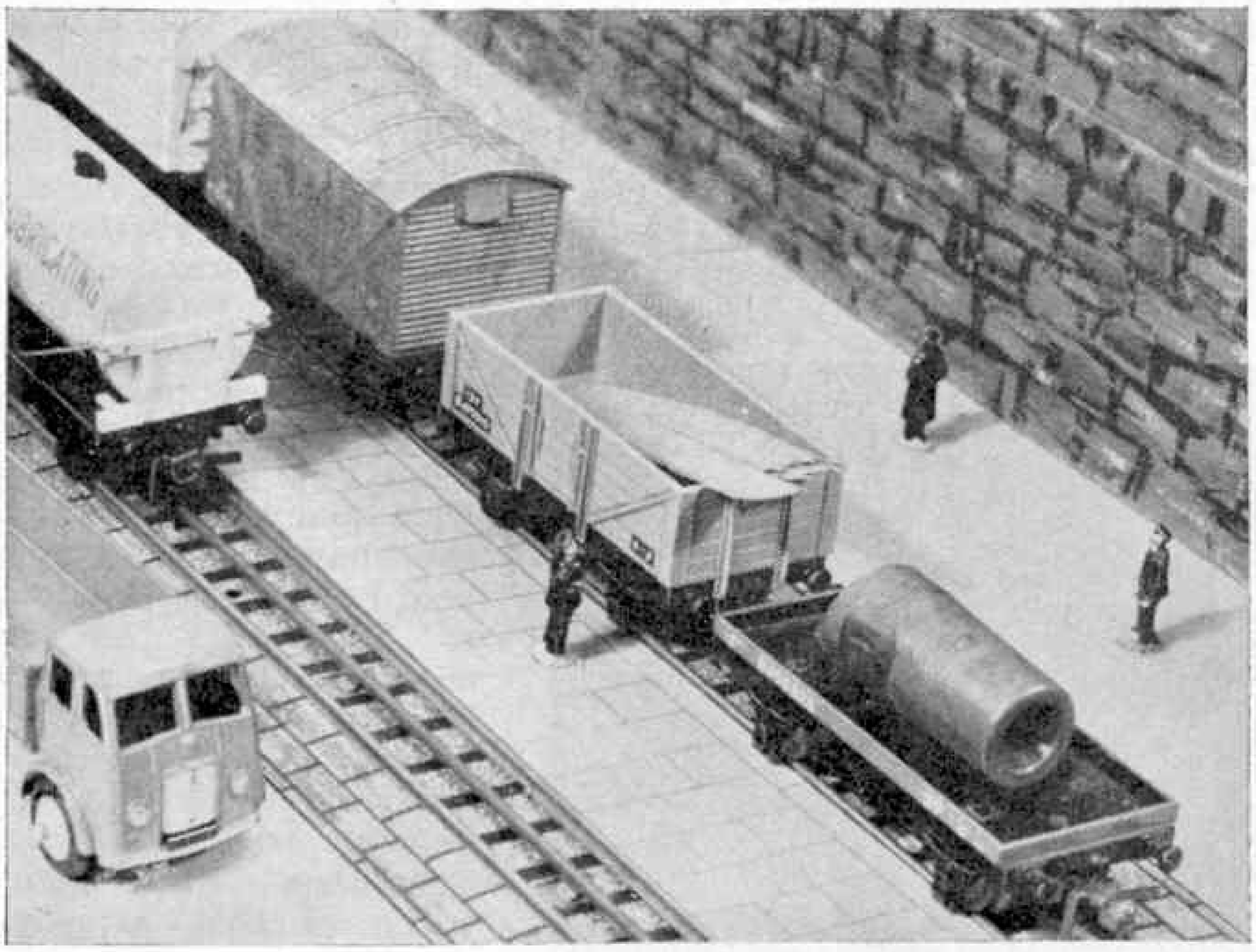
The upper left-hand door in each case is the first one to be opened, and the last to be closed. Small but strong projections on the doors ensure that these take up the correct position when closed and that they are held securely in place. So the Horse—yes, there really is one inside—cannot fall out. He too is a moulding, and he is quite a handsome animal that will lend a nice touch of realism to the loading platform.





Pairs of Hornby-Dublo moulded wheels and axles are shown here. Those on the left are spoked, and those on the right are of solid disc type.

Before passing on to the other details, I must draw your attention to the correct modelling of the inside surfaces of the horse compartment doors. The upper ones bear representations of the heavy padding providing for the protection of the often valuable occupants. The lower door has ribs or battens to prevent horses slipping when using it to enter or leave the vehicle, while the floor of the Horse Box is similarly finished. On the real vehicles movable internal partitions make it possible for the horse compartment to accommodate two, or three, horses side by side as the case may be, but in the Hornby-Dublo model a single central partition is provided.



Hornby-Dublo Rolling Stock in a goods yard. You can just distinguish the lugs securing the axle brackets of the Low-Sided Wagon.

The window openings of the compartment provided for the grooms or stable hands travelling with their horses are glazed and the representation of the doors to this part of the vehicle, and of those marking the compartments for fodder or straw bales at each end of the Horse Box, are very neatly carried out. Needless to say, end and roof details are very complete and the moulded body is mounted on a die-cast base incorporating representation of the brake gear. To complete the tale, the lettering in the right-hand lower corner of each side is carried out in an extremely neat manner.

From the Horse Box we must turn to the I.C.I. Chlorine Tank Wagon, a miniature reproduction of the real vehicles operated by the well-known Imperial Chemical Industries Limited organisation. Apart from their special construction the nature of the cargo carried demands ready identification of the vehicles concerned, the tanks and associated structures being coloured white, with a red band encircling the tank on each end. The platform above the tank and the central manhole are coloured in an arresting shade of yellow.

For the first time in Hornby-Dublo Tank Wagon practice plastic moulding has been used to produce the tank and details concerned with it. This means that the end members that help to hold the tank in position are neatly moulded, while the holding down straps that encircle the tank at intervals are represented in a very satisfying manner. The usual diagonals brace the end members to the solebars of the die-cast base. The latter is entirely new and is a remarkably fine piece of modelling incorporating axle guards and dummy brake gear showing a convincing amount of "daylight" between the members and representing a considerable advance on previous practice. I am sure most of you will lose no time in adding these attractive newcomers to your stock.

As with all Hornby-Dublo Rolling Stock in current production, the now well-known Hornby-Dublo moulded wheels are fitted to these new vehicles. That reminds me that many of you have already used these wheels to bring your older vehicles up to date. Spoked or disc wheels, as illustrated on the opposite page, are available and can be obtained through dealers in the normal way as they are standard listed items.

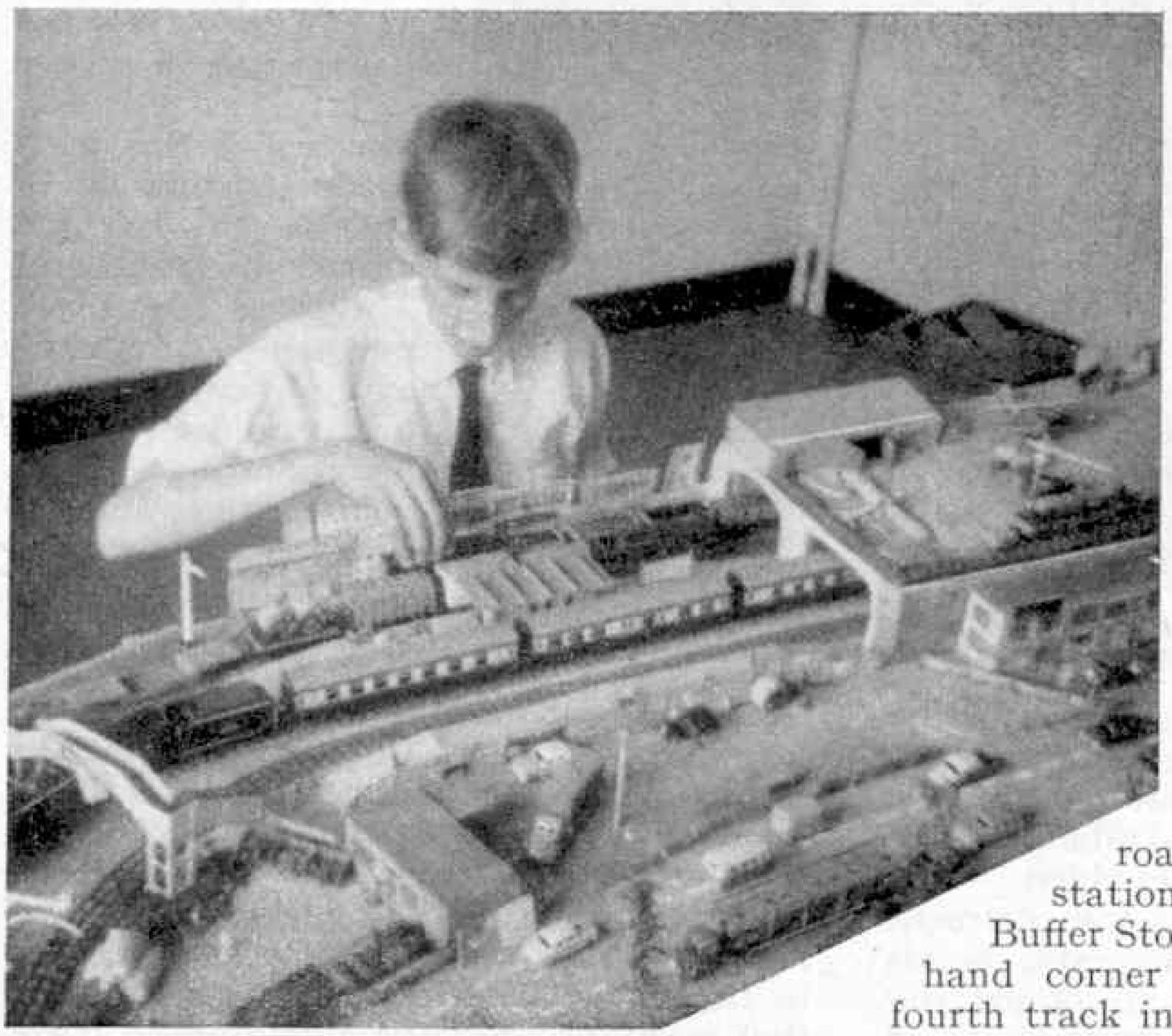
Substitution of these new wheels for the older metal ones involves removal of the axle brackets and in the case of most of the older tinplate-bodied four-wheelers the lugs holding the axle brackets pass through the floor of the vehicle, where they can be dealt with fairly easily. Every two wheels and axle form a one-piece moulding in extremely hard, smooth material, giving consistent performance and easy running.

Variety in Layout Schemes

By "Layout Man"

BELOW you see *M.M.* reader and Hornby-Dublo enthusiast Martin Stephens Hodge, of Northwood, busy with his layout. I am glad to be able to show you part of this railway and to say something about it because the system is a simple one and, as the owner points out, a not very extensive one owing to the restricted space available for the baseboard.

These are characteristics shared by many layouts and, as with many another miniature railway nowadays, the base-board has to be accommodated in the owner's bedroom. The fact that the layout is mounted on a board means it is self-contained and readily dealt with so far as general cleaning, maintenance and storage are concerned.



Martin Stephens Hodge with his Hornby-Dublo Three-Rail layout. The scenic effects include an airport above the railway.

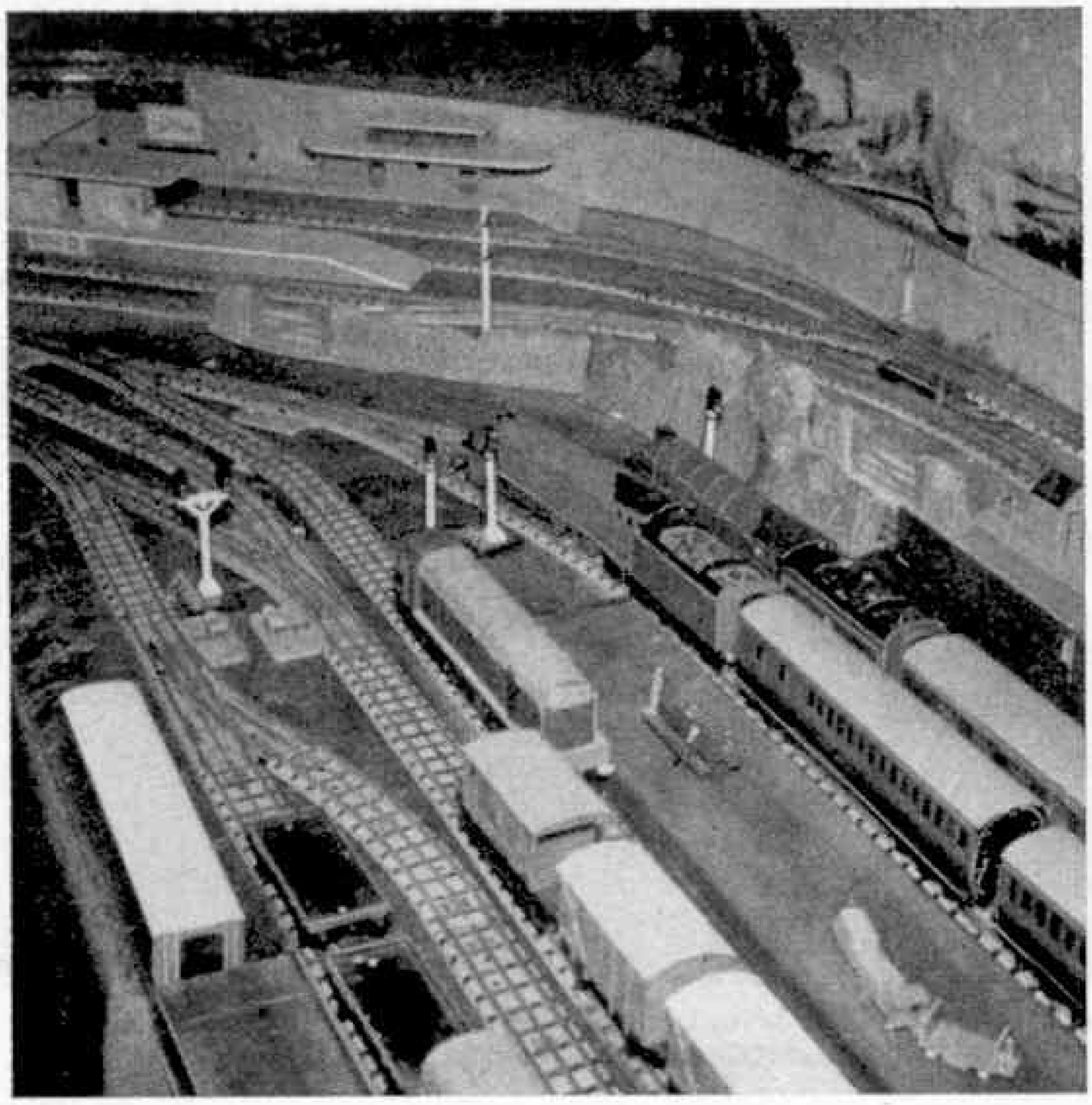
The railway arrangements are not elaborate, although there are four tracks at the station you can see in the picture. The station is built up by combining the Hornby-Dublo Island Platform with a single-face platform made at home. The latter platform has no buildings on it at present, so the bulk of the station's business is carried out at the Island Platform already mentioned. The two sides of the station are connected by means of a standard Hornby-Dublo Footbridge, which looks very effective sited on a curve.

Scenic Development

Two through running tracks are provided, one on each face of the Island Platform, these two joining together where the line becomes single at the ends of the layout, which follows the popular so-called oval shape. The main line has, in fact, been planned to follow the shape of the base-board and to go as close to its edges as is conveniently possible. This leaves the space within the main oval available for scenic development and full advantage has been taken of this, as you can see.

The innermost track serving the platform branches off from the main single line before this splits into the two roads running through the station, and it is finished off by a Buffer Stop just beyond the lower left-hand corner of the illustration. The fourth track in the station is not really a running track at all as it is not connected to the rest of the layout. It adds to the general effect, of course, and is a useful storage place for wagons. One end of it is just to the right of the Signal below Martin's elbow; the other is out of sight within the covered way or tunnel into which all tracks pass at the end of the station. This covered way passes underneath a raised section of baseboard in the manner now popular on so many layouts.

There has been plenty of development on this high-level section. In particular, a miniature airport has been arranged, although there is really not too much space for an installation of this kind. Still, the



"Sir Nigel Gresley" and "Mallard" stand with their trains side by side on the layout of John Harvey. The Diesel is waiting for its next tour of shunting duties.

scene is pleasant and it does add to the interest of the layout as a whole.

Rolling Stock

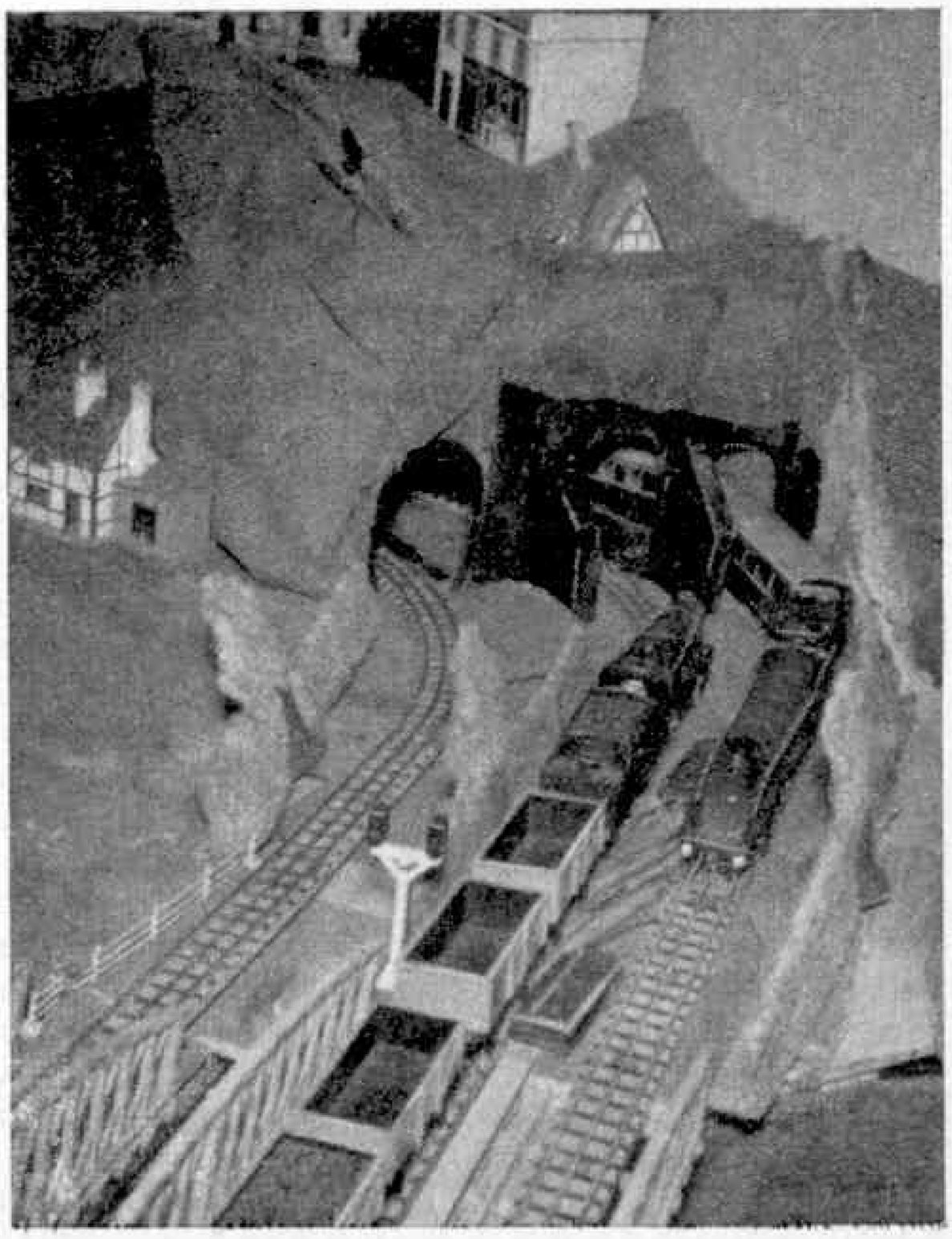
The railway is worked by two Hornby-Dublo Locomotives, these being sufficient for all services in view of the generally simple nature of the train operations. For passenger traffic there are D12 Corridor Coaches and a matching D20 Composite Restaurant Car in red and cream colours. This is the train that is invariably taken by *Duchess of Montrose*, the other engine being one of the ever-useful 0–6–2 Tanks, which handles the varied goods traffic quite comfortably.

A nice selection of goods stock is available including several of the newer vehicles with moulded body-work. A point to note about *Duchess of Montrose* is that it has been in service for six years and it still gives remarkable performance. It is clear that Martin looks after his equipment in a most thorough manner.

The space in the centre of the board has been used for the development of a miniature village. Although this space is restricted careful choice and siting of the various buildings avoids any suggestion of crowding. A road system provides plenty of opportunity for the display of Dinky Toys motor vehicles. Some of these are used to good purpose in the coal yard served by the innermost track.

From this simple but very satisfactory system we pass to a more elaborate layout, of which there are two pictures on this page. This has been built up by John Harvey, of Croydon. The space allotted to this railway is generous for there are about 110 feet of Hornby-Dublo track laid down to provide various running roads, numerous sidings, loop lines and so on. In addition to through running tracks, there is a terminal section in which an effective station has been built up.

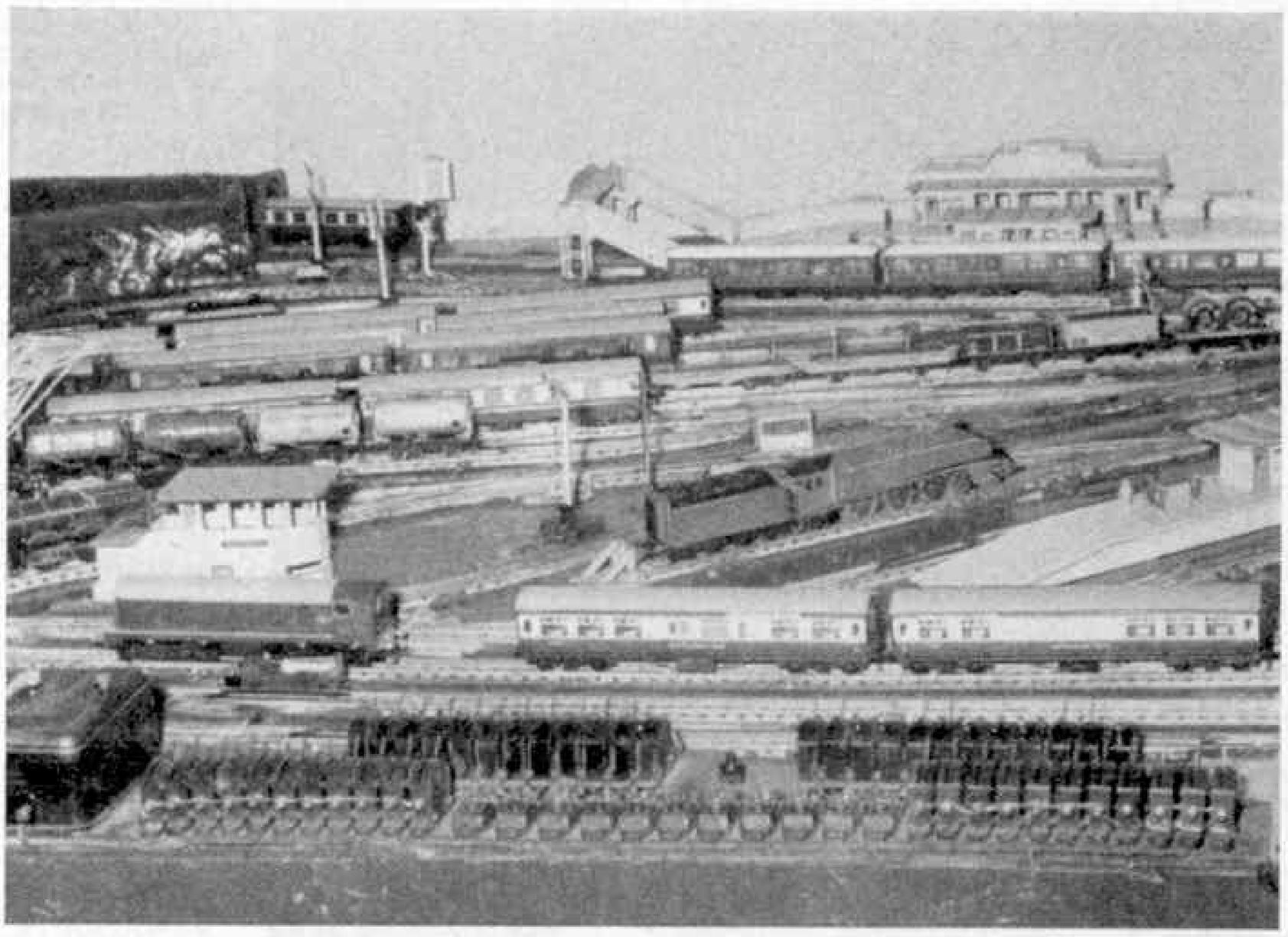
At one side of this section are tracks and a loading bank for goods traffic. The upper illustration here shows this section in the foreground, the loading platform beginning by the out-of-service coach body



Here "Mallard" is close to "Turrets Bridge Junction" on a semi-fast train, with the 2–8–0 hauling a mineral train on the up line, on the same layout as that shown above.

that rests on the ballast and is used for various staff purposes. This sort of thing can be seen here and there on real railways, and I expect most of you have seen examples of it.

Like the layout referred to previously, this one incorporates a tunnel section at one end and here again space has provided more scope for the development of a scenic section above the tunnel itself. As is clear from the lower illustration, there are several tunnel entrances, but where the tracks pass out into the open again the effect is more of a covered way with a single exit, rather than of a tunnel. Such differences in the treatment of scenic or lineside items considerably help the variety and effect of a system.



Busy sidings and other tracks on the layout of G. H. Sims. The various Switch levers and press-button Switches in the foreground are arranged in a business-like manner.

Variety of Traffic

The open sections of the layout are well provided for in the matter of scenic effects and, apart from these, there are plenty of lineside features associated with railways. In particular, very good use is made of Hornby-Dublo Colour Light Signals.

Traffic is varied, naturally, and a fine selection of Hornby-Dublo Rolling Stock and Locomotives is there to deal with it. Corridor Coaches, a Restaurant Car and a T.P.O. Mail Van are involved in the longer-distance services, while compartment stock also is in use for the shorter-distance purposes.

The Locomotives include 4–6–2s and a 4–6–0 *Bristol Castle*, while suburban and similar duties are carried out by the 2–6–4 and 0–6–2 Tanks. On the freight side there is a high standard of motive power as the Hornby-Dublo 8F 2–8–0 handles the main-line freights. More intermediate duties are dealt with very effectively by a Hornby-Dublo D8000 Diesel.

Unlike the two railways just described, a third one, developed by G. H Sims, of Derby, of which part is shown in the photograph on this page, includes only simple basic requirements in the way of lineside effects. Thus there are Stations, Signal Cabins and Signals, as well as a Footbridge and a home-constructed tunnel, but apart from these the system is concerned primarily with train operation. It is clear from the picture that there are very complete arrangements for section control and for the operation of Points and Signals and other Electrically-Operated items. Several banks of Switches are clearly shown and the control site as a whole has a most imposing aspect.

Nine Locomotives

In view of the large amount of traffic handled on the line it will not surprise you to know that there are nine Hornby-Dublo locomotives in service, including all the Hornby-Dublo Three-Rail steam types except the 2–8–0. There is a well-arranged programme of main-line trains, and passenger services in general call for 23 Coaches and two Restaurant Cars.

A useful feature on the layout in connection with traffic movement is the fact that there is a reverse loop connection running diagonally across the centre of the system, and part of this can be seen in the picture. Clearly the fullest advantage has been taken of all the space available on the baseboard, which is 8 ft. long and 5 ft. wide. There is plenty of siding accommodation for the different vehicles, while loops and running tracks are well laid out for continuous and intensive operation.

Club and Branch News

WITH THE SECRETARY

Exhibition Announcements

I am writing these notes in late February. I have just received a letter from the Chairman of a very enthusiastic H.R.C. Branch in this country, asking if I will be good enough to include in the March *M.M.* an announcement of their Annual Exhibition to be held that month. He is, of course, much too late with his request, as the March issue is already printed. In fact, he would have been only just in time for an insertion in this, the April *M.M.*

This too-late request prompts me to remind Club Leaders and Branch Chairmen again that details of Exhibitions must reach me at least six weeks before the date of the event, if any announcement on this page of the *M.M.* is to be in time to be of practical value to the Club or Branch concerned. This is necessary because the *M.M.* has to go to press several weeks in advance of publication, as will be gathered from what I have written above. So please bear this in mind. Let me have any Exhibition details in good time, and I shall be very happy to help in this way.

H.R.C. BRANCH RECENTLY INCORPORATED

No. 576. Luton County Secondary Technical School.—*Chairman:* Mr. J. E. Gudgin, 376 Dunstable Road, Luton, Beds.

CLUB NOTES

Newtown School (Waterford) M.C.—The Exhibition was a great success. Meccano models displayed included cranes, lorries, cars and windmills. There were train layouts in operation, and an excellent display of Dinky Toys. *Secretary:* J. Gillespie, Newtown School, Waterford, Eire.

Ashtead Free Church M.C.—During an outing to London members visited the Model Engineer Exhibition and the Science Muscum. The prize-winning model in a recent Club Meccano model-building contest was a windmill built by C. Price. Another good effort was a miniature representation of equipment for a T.V. studio. A members' evening proved very varied and interesting. One member brought his collection of 993 match-box tops, from many countries; two other boys brought their pets, and during the evening members gave short talks on subjects which interested them. *Secretary:* D. J. D'Arcy, 34 Newtownards Road, Ashtead, Surrey.

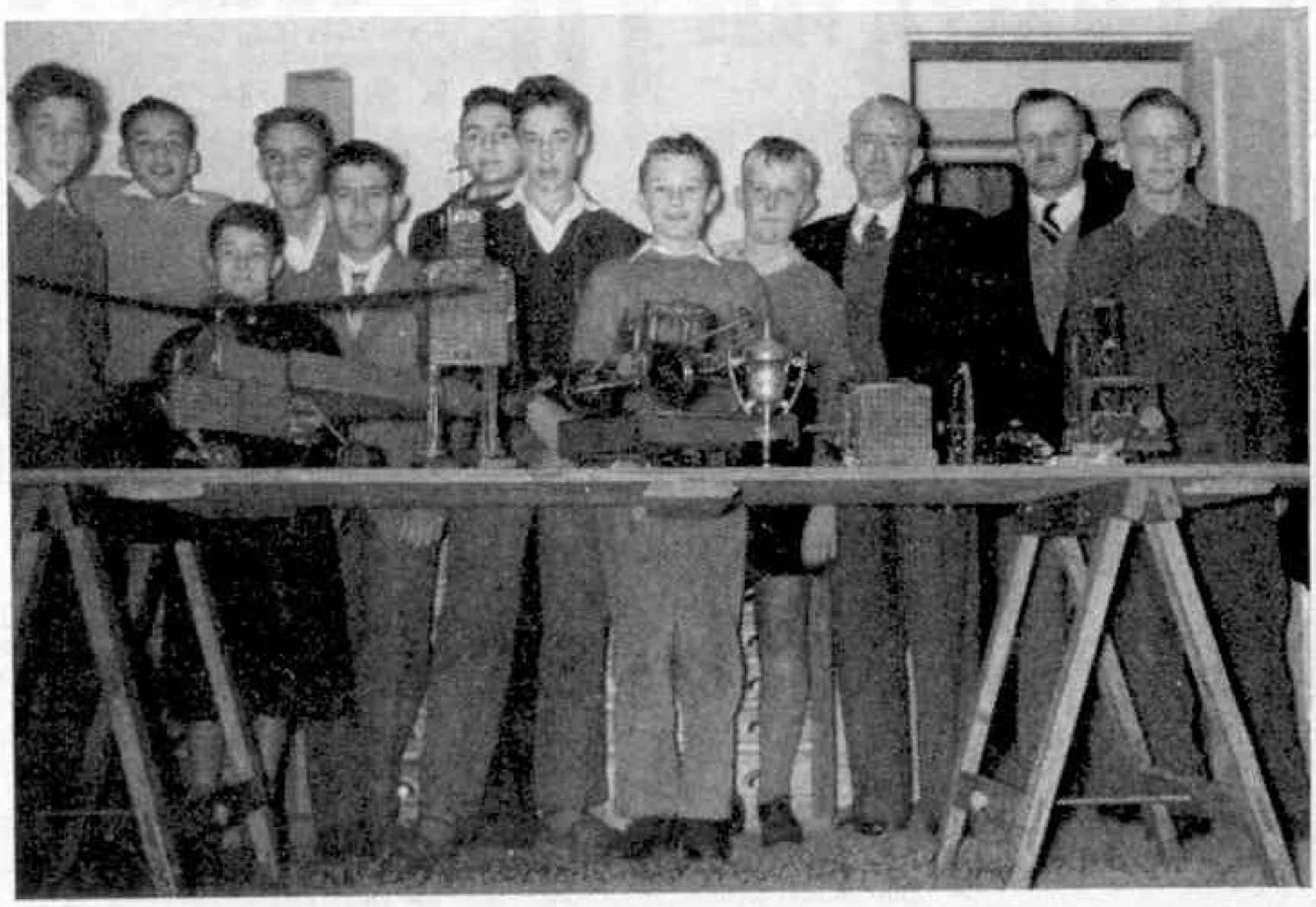
AUSTRALIA

Maylands M.C.—The last meeting of 1959 was a Faction Exhibition, the first held for over four years. The green and gold Faction won the highest number of points, with a wonderfully realistic miniature of Maylands aerodrome at night. The black and gold Faction were second with a display showing a Meccano Bridge under re-construction about to be attacked by rebel forces. A Hornby Gauge 0 Train was crossing the bridge. The setting was a night scene, and clever lighting effects gave realistic moonlight—and a moon!

The red and gold Faction's display was a 6 sq. ft. papier mache representation of part of the moon, complete with craters and mountains, and depicting the arrival of the first rocket from the earth. This rocket was constructed of a well-shaped framework of Meccano covered with papier mache and painted silver, and had an Australian flag. *Secretary:* W. Bransby, 90 Crawford Road, Maylands, Western Australia.

BRANCH NEWS

Luton County Secondary Technical School.—The senior members meet on Monday evenings and the juniors during the Monday lunch period. A good deal of train running has been carried out, as several of the members have brought their own locomotives to the meetings. Some of the senior members have kindly repaired the locomotives of the juniors. The first serious attempt to construct scenery for the Branch layout is in hand, a start having been made by constructing corner pieces in the shape of low hills. *Secretary:* R. J. A. Scott, 7 Victoria Rd., Hitchin, Herts.



Officials and members of the Cape Peninsula M.C., Cape Town, South Africa, with models built for the Club's Annual Inter-Group Competition last Autumn. Mr. F. Korck, President, is third from the right, and Michael Sprenger, Secretary, is on the extreme left.

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For other Stamp Advertisements see also pages 212 and xx

Stamp Collectors' Corner

By F. E. Metcalfe

BIRDS OF THE FALKLANDS

The new issue that the Falkland Islands released in February, with its splendid bird pictures, was assured of best seller rating right from the word go. For me this set had particular interest, for while I do not know a great deal about the issuing country itself, I had on two occasions lived in Patagonia, off the coast of which the Islands lie, and there I had seen many of the birds depicted on these stamps.

While I have always had some interest in birds, I am afraid that while in Patagonia I was always more taken up with the animal life. I used to love to take a walk into the country, or go out on horseback—one could buy a horse, second to none in the world for four or five pounds—and then sit quietly. After a very short while an armadillo would scuttle along. Then a fox would slink by or an emu would dash past, going like the wind, and it was not unusual for a dozen of the ruminant cameloid guanaco to sail past. And the instant I stood up every living creature would disappear like magic.

With all this to engage my attention perhaps I might be excused for not having paid much attention to the birds. Geese at any rate were not overlooked, for at certain times of the year they used to pass over at night, and some of them made good eating.

The set consists in all of 15 values, which run from a ½d. to £1. Now don't let that put you off, for each value shows a different bird, and you need only go up to the 1/– to get ten stamps, showing ten birds, and just as surely as the purchase of such a cheap set will be within the reach of most of us, so surely will these stamps when mounted, and neatly written up with the details I will give, make a page in your album that will be of great interest, not just to a collector, but to anyone at all interested in the world around us.

The Crown Agents in their monthly Bulletin are going to great pains nowadays to make the stamps of the British Colonies instructive to the multitude of collectors who go in for them, and they have provided many details about the stamps in question, which had been gathered in the first place by the Falkland Islands Government. So let us consider the data so thoughtfully provided.

We will start with the ½d. value, and go on to the top. The bottom value depicts a Falkland Island Thrush. It is the size of an English blackbird, khaki-brown above, with brown head, wings and tail, buff underparts and relatively long orange coloured legs. The 1d. shows a Dominican Gull. This is one of the commonest birds round human habitations in the Islands, for they are great scavengers, but alas, they are suspected of doing damage to sheep, the Island's most important asset. The birds are up to two feet in length and are to be found also along the coasts of South America. I know these birds.

The third value, the 2d., depicts the Gentoo Penguin. This is one of four species of penguin that breed regularly in the Falklands, and some of the rookeries contain thousands of birds. Next we have on the 2½d. the Falkland Marsh Starling, which apparently the Falklanders call a "robin", as the underparts of the male are a brilliant red. On the 3d., we get the good eating Upland Geese, which alas, for them, are very tame. They eat grass, and apparently in some parts of the Falklands wholesale slaughter is encouraged. Pity, though feeding stuffs are not as plentiful down South as they are with us. Steamer Ducks feature on the 4d. They are mostly flightless, but even so there are plenty of them still. The 5½d. shows another species of penguin, the Rock-hopper, a most atractive bird with a yellow head stripe and plumes, and brick-red eyes. With their strong orange-red bills, they can snap at one with effect.

The 6d. stamp shows the mighty Black Browed Albatross, or the Mollymawk, as Falklanders and seamen in general call them. They only lay a single egg, but each of these is so large that one provides a full meal. The 9d. shows the Silver Grebe, which though rare in the Falklands, is to be found widespread on the mainland. About a foot in length, it prefers to dive rather than fly. Who can blame it? The 1/– shows Pied Oystercatchers. These large black and white birds, with long red bills, are to be found on every Falkland beach. They live, not on oysters, but on mussels and small water animals. They live also on the mainland, where I have seen them often.

The 1/3 value depicts the Yellow-billed Teal. It is not a very showy bird, for its plumage is only a mixture of buff and dark brown, but there is a touch of yellow at the side of the bill in both male and female. It is good eating, which is unfortunate for a duck. On the 2/– however, we get the Kelp Geese, and they are luckier, as they are not relished as food, for they feed on seaweed rather than grass. So they are more or less left alone, and consequently are fairly common. The male is white, but the female is black and brown above, and black and white below.

(*Continued on page 214*)

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For other Stamp Advertisements see also pages 210 and xx

Stamp Gossip

STAMP BOOKLETS

With so many stamp matters needing mention, it is not often that I am able to refer to those handy little booklets of stamps that post offices so enterprisingly prepare for our convenience. But this philatelic sideline is growing fast in popularity. This was brought home to me by a letter which I received recently from a collector who said that he had read that "graphite" stamps, those with the black lines running down the back intended for electronic sorting, were being placed in stamp booklets, but only to be sold in Southampton and district. Yet he had seen one of them that had been bought in a Liverpool post office. This was no mistake, for owing to the printers' strike, now an unhappy memory, there had been a shortage of normal booklets, so the Post Office has widened the field for the "graphites" by widening the area in which they could be sold.

And here is a tip. If these booklets, the 3/- type, with the date August in the right bottom corner of the back cover, come your way, buy them, for most collectors who go in for booklets will be only too pleased to give you a bit of profit right away on your purchase. And the profit might grow later on, for only just over 40,000 were prepared, which is a very small number for booklets.

Incidentally these electronic envelope facing machines, for which the "graphite" stamps are used, are shortly to be installed in Liverpool, Leeds and Southwark (London S.E.), and then in these places there will not only be "graphite" booklets—but none of the scarce ones to which I have referred—but phosphor/graphite stamps also. These not only have the black lines on the back, but also a transparent line on the front. What a complicated age we do live in. I wonder what Roland Hill would think if he could have seen any of these stamps, and have been told their use.

BLOOD DONORS

I cannot say that I am entirely in favour of the efforts which are being made all the time for our ordinary stamps for everyday use to be pictorials, but I do think that our Post Office is missing a great chance for free publicity by not adopting the system which prevails in most countries abroad to use special stamps for publicity purposes. If the stamps are attractive collectors will buy enough to cover the extra cost of such issues. Foreign post offices know this and stamps are being used more and more to call public attention to one cause or another.

Take, for instance, the stamp of France which is illustrated on this page. You don't need to know much, or any French, to spot the object behind this issue. Now just suppose that this stamp had been issued by our own Post Office, would not good publicity for a worthy object have resulted? Why should we leave all the free publicity to others?

CHANGING CURRENCY

France recently changed radically the value of the franc, and next year South Africa will change its currency also. In this latter case the metric system is being adopted, and new names are being given to various coins. For instance, ten shillings will become a rand, and so on.

Israel is also making currency changes, and the Israel pound, which hitherto consisted of 1000 prutot, now consists of 100 agorot. Please don't ask me what these names mean, for I haven't the slightest idea, beyond the fact that it takes so many to make a pound. Of course the definitive stamps had to be changed, and how this was done can be seen from the accompanying illustration of two of the ten values so treated. An old design was adapted and printed in various colours with the value boldly printed right in the middle of each stamp, from one agorot to fifty.

CHILDREN'S WELFARE

I must say that I have a weakness for modern Indian stamps, and so I was very pleased to get a first day cover from our friend Mr. Kooka showing copies of the latest "Children's Day" stamps issued on 2nd November. I think the official description of the design does the Post Office as much credit as does the stamp itself. It says "The picture of the Children's Day stamp shows two boys outside a children's home. They are looking with anxiety and wondering whether they will be admitted into the home."

MIND THOSE TEETH

As an instance of how thoroughly countries like the U.S.A. have adopted the publicity idea of saying it with stamps, just take a peep at the one illustrated. The subject has to do with the care of those valuable teeth of yours. Incidentally, the design of the stamp seems to have caused a bit of trouble, for the first one had to be altered. I believe that the authorities were not quite satisfied with the grin on the face of the young lady. Perhaps they thought that she did not

(*Continued on page 214*)

Flying in Iceland—(*Continued from page 169*)

the great natural fountains of boiling water at Geysir and Hveragerdi, the wonderful waterfalls—especially Gullfoss (the golden falls) where the sun shines through the spray to crown the foaming torrent with a perfect rainbow—the old farmhouses covered to the rooftops with turf to protect them from the winter cold, and the great plain of Thingvellir, where the world's oldest parliament first met more than 1,000 years ago.

Road and Track—(*Continued from page 171*)

ance by the Sunbeam Rapiers and their No. 1 driver, Peter Harper of Stevenage. For the third year in succession a works Rapier was the highest-placed British car and in the 1,300 cc. to 2,000 cc. class Rapiers were first, second, fourth and sixth. Harper, fourth overall in the Rally with his co-driver Raymond Baxter of the B.B.C., was the highest-placed British driver for the second time in three years. His handling of the Rapier over the final 350-mile Mountain Circuit was masterly. He drove the whole distance while poor Baxter tried to cope with navigation and mountain sickness at the same time.

The Rally-bred Rapier

The Rapier is a fine example of persistence paying rich dividends, for every year the Rootes Group has taken to heart the lessons of the Monte and the next production Rapier has been a better car. The latest Rapier, which has as its power unit the 1,494 cc. engine introduced for the two-seater Alpine and developing 78 b.h.p. gross at 5,400 r.p.m., is a really rapid motor car and 90 m.p.h. is within easy reach. In fact, on one of my favourite stretches of road I took the needle round to 100 on the clock (in overdrive) with two passengers up. I then used the disc brakes to bring the car to a rapid and steady halt.

The gearbox, with re-arranged ratios, and a conveniently-placed central remote control gear lever, is smooth and fast and there is sparkling performance to hand—through the gears to 50 in 11·5 secs., and to 60 in 17 secs.

The test car had overdrive on third and fourth gears, brought into action by the flick of a switch behind the steering wheel rim. I really enjoyed myself, playing a tune as it were with direct and overdrive top and direct and overdrive third. For instance, direct third took me up to 60 but, by flicking the overdrive switch and without removing my foot from the accelerator or touching the clutch, I could take the Rapier up to 75 in overdrive third.

The other advantage of an overdrive is that it reduces petrol consumption by cutting down the number of revolutions per minute in third and fourth gears. In this respect, the road speeds of 60 and 75 mentioned above *both* represent an engine speed of 5,500 r.p.m.

Quite apart from performance, the Rapier is one of my favourites because of its truly magnificent seats. They are so well designed and so comfortable that at the end of a long, fast journey, I felt as fresh as when I started. All in all, a very desirable property at £985 without overdrive or £1,046 with overdrive.

Writing in Red Rock—(*Continued from page 179*)

"Rock", and to complete the circle he wraps the word "Brixham" around them both, then flattens out a thin coat of white pulled sugar to surround the lump. Lastly, he stretches the pink sugar out into a sheet large enough to case around the complete body. A "neck" is added and the body is spun out into sticks of the necessary thickness, and later, chopped into the required lengths.

So, whenever you enjoy a stick of rock, whether at the seaside or elsewhere, remember the skill and dexterity of the man who puts the letters in the rock.

Ride by Electronic Chauffeur—(*Cont. from page 184*)

added margin of safety under conditions of poor visibility. Every vehicle passing over a particular detector circuit would cause high-frequency signals to radiate from a chain of antenna wires buried in the road for a distance of several hundred feet to the rear. These signals would be detected in a suitably-equipped vehicle to provide a dashboard indication, and, in a fully-equipped vehicle, to provide automatic control.

At the same time the original use of the buried detector circuits for the control and study of traffic could be further extended, and then relative amplitude of the warning signals in the buried antenna system could be adjusted by traffic control engineers to correspond with the surface conditions of the road. In conditions of poor visibility, or surface ice, the system could be adjusted to produce slower speeds and greater distance between vehicles.

Guidance Cable

Such would be the advantage in safety to cars equipped with receivers and dashboard indicators that the number of vehicles carrying such devices should increase very quickly. The use of a guidance cable in the centre of each lane on the road, together with collision prevention equipment, would permit the driver of a properly-equipped vehicle to proceed safely even under conditions of zero visibility. He would use his dashboard indicator to keep the car centred on the guidance cable and to regulate his speed in order to maintain a safe distance from the car ahead. The driver without this equipment would benefit from the improved regulation of traffic, but would otherwise be unaffected by the installation of the electronic control system.

Having seen the test roadway in Nebraska and sampled the luxury of Firebird III, I for one will be looking forward to the 1980 Motor Show, even if the model I decide to buy still carries purchase tax!

Stamp Collector's Corner—(*Continued from page 211*)

The 5/– depicts King Cormorants, known locally as King Shags. Marked with black above, which like that of our starlings have a purple and green sheen, their necks are white. They are quite common and nest in large rookeries.

The 10/– shows the real villain of the piece, the Carancho, a large predatory bird, known only too well for its attacks on lambs. Though every human hand is against it, so wary is it that it is said to be on the increase. Finally we come to the top value £1, and here, very fittingly, is depicted the Black-necked Swan. This is the largest waterbird breeding in the Falklands, but alas it is not very common.

And that's a brief résumé of the new issue for the Falklands. It's a wonderful set.

Stamp Gossip—(*Continued from page 213*)

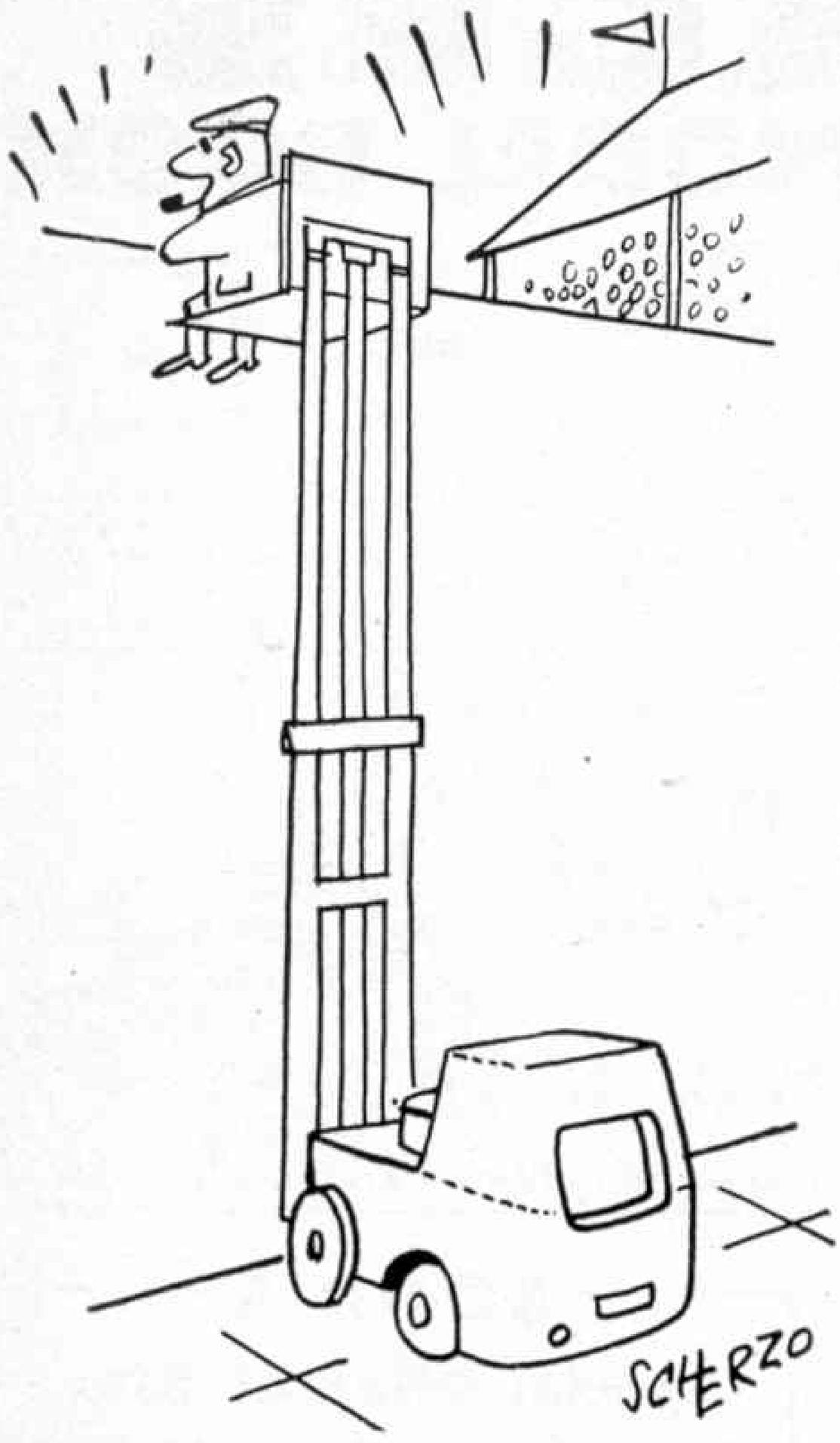
like the idea of cleaning those fine teeth of hers.

At any rate, a change was made and the result, as I think all will agree, is a good boost for the idea of caring for one's teeth.

TIP OF THE MONTH

I am not going to tip a single stamp this month, or even a single set, but ten sets! But don't worry. Each of the ten sets costs only a little over 1/–, and as these lines are being written the whole lot only costs about 12/6. But I don't think the price will remain so low for very long.

The issues to which I am referring are the sets of three values, 30 stamps in all, that were issued by the various West Indian colonies on 23rd April 1958, to commemorate their federation. Those from Jamaica, came out a day earlier. The sets met with only a moderate reception, and, what is equally important, when the stamps were withdrawn very few dealers had good stocks, and as they would have had to pay the Crown Agents a minimum commission charge of £5, not many dealers, if indeed any at all, bought more. What does all that add up to? Need I say? The fact is that bit by bit those who missed the boat will repair the omission, and new "QEII" collectors will need sets. Those who buy today will not regret their purchase.



Judge: Sir, are you trying to show contempt of court?

Plaintiff: No, I'm doing my best to conceal it.

* * * *

The country couple made one of their infrequent excursions to town in their horse and trap, and on arriving at the city limits, noted the sign, 'Speed limit 20 m.p.h.' "Ef you'll handle the reins, ma," said the farmer, "I'll take the whip, and we'll see if we kin make it."

* * * *

A nagging wife bought her husband two neckties for his birthday. The next morning he donned one and made a grand entrance for breakfast.

"Humph!" snorted the nagger when she saw him, "So you didn't like the other one, eh?"

* * * *

Lady: Why is my letter so damp?

Postman: Postage due, I guess.

* * * *

Waitress: This is your fifth cup of coffee, sir. You certainly must like coffee.

Diner: Yes, I do, or I wouldn't be drinking all this water just to get a little.

Fireside Fun

Tom was a driver
Whose acts were slow;
He failed to stop,
So he had to go.

* * * *

Customer: This photograph makes me look older than I really am.

Photographer: Well, that will save you the expense of having another one taken later on.

* * * *

"Nothing like trying once in a while to put yourself in another person's shoes," as the tramp remarked while he rapidly made the change.

* * * *

"Thank you very much for the flute you gave me, Uncle. It's the best present I've ever had."

"That's fine," replied Uncle, "can you play it?"

"No, I don't play it, but Mummy gives me 2s. a week not to play it during the day, and Daddy gives me 3s. every week not to play it at night."

* * * *

"Now tell mama what mama's little boy learned in school today?"

"I learned two more boys not to call me 'Mama's little boy' anymore."

* * * *

Boss to the new office boy, "Look! I am a man of few words and I like others to be so. If I beckon with my finger than means 'come'."

Office boy (trying to please), "That suits me, sir. I too am of few words. If I shake my head, I'm not a-'comin.' "

"Rupert's doing well at the missile base—he's been given a rocket by his C.O.!"

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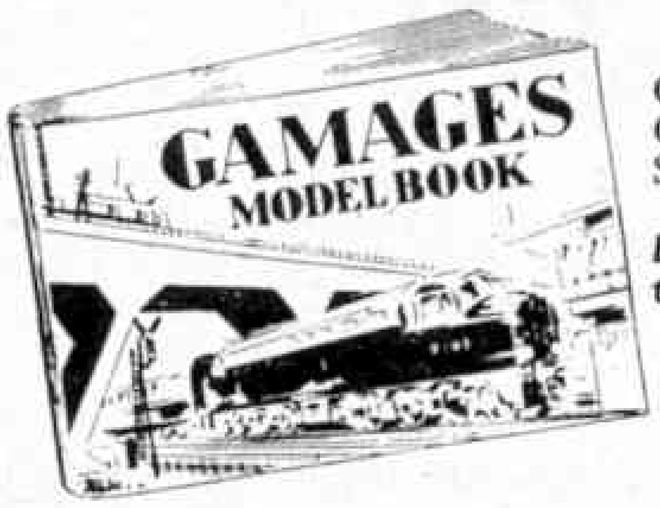

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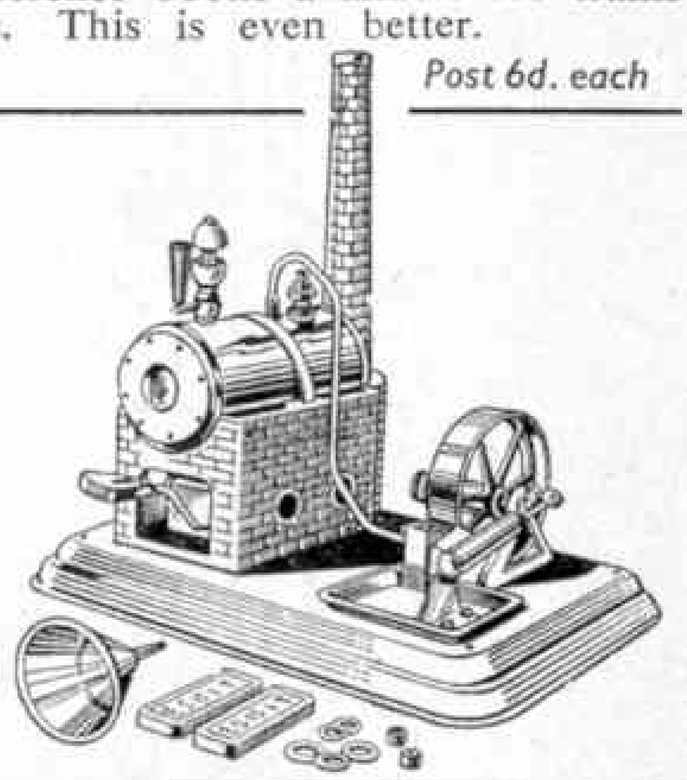

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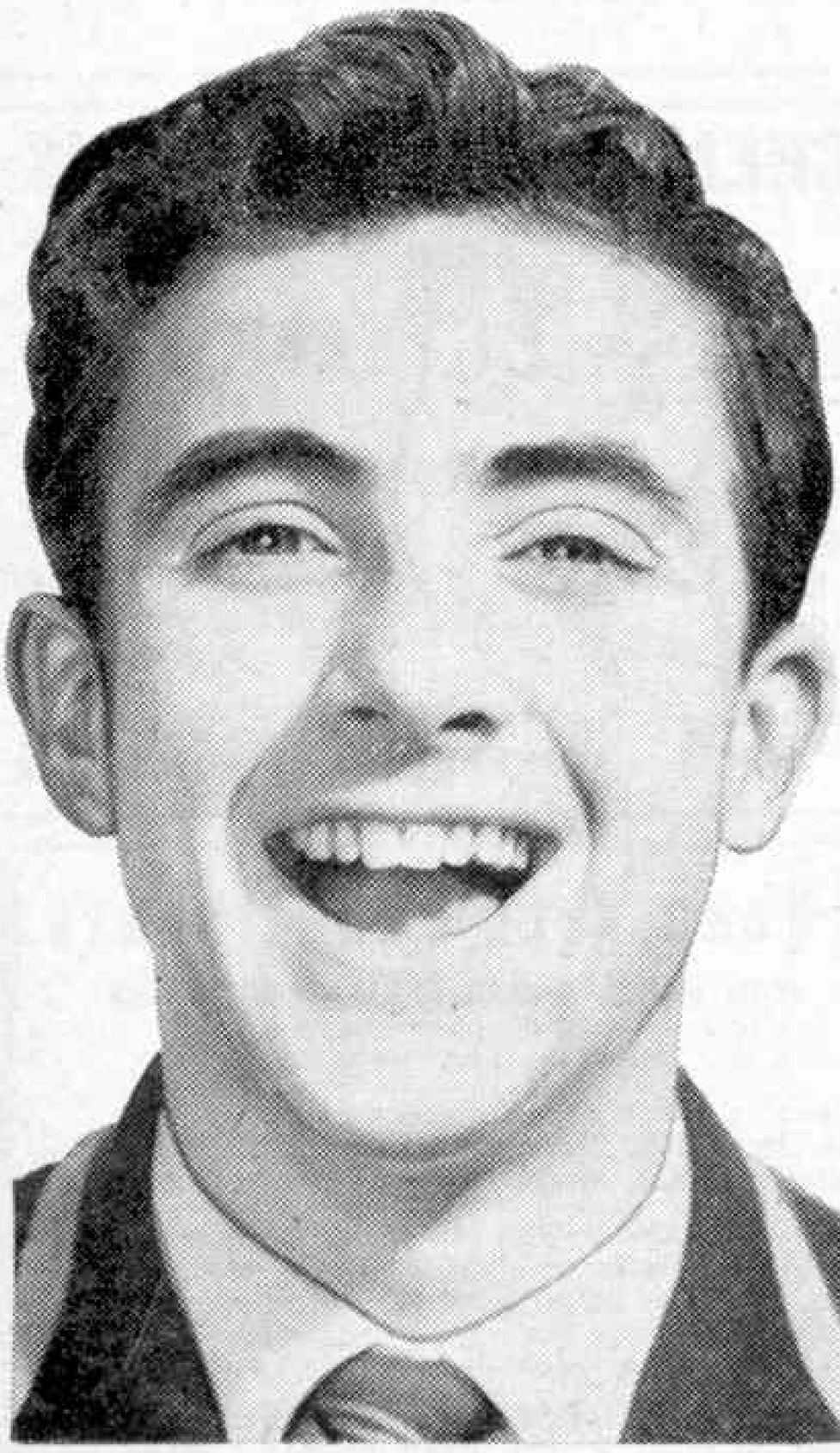

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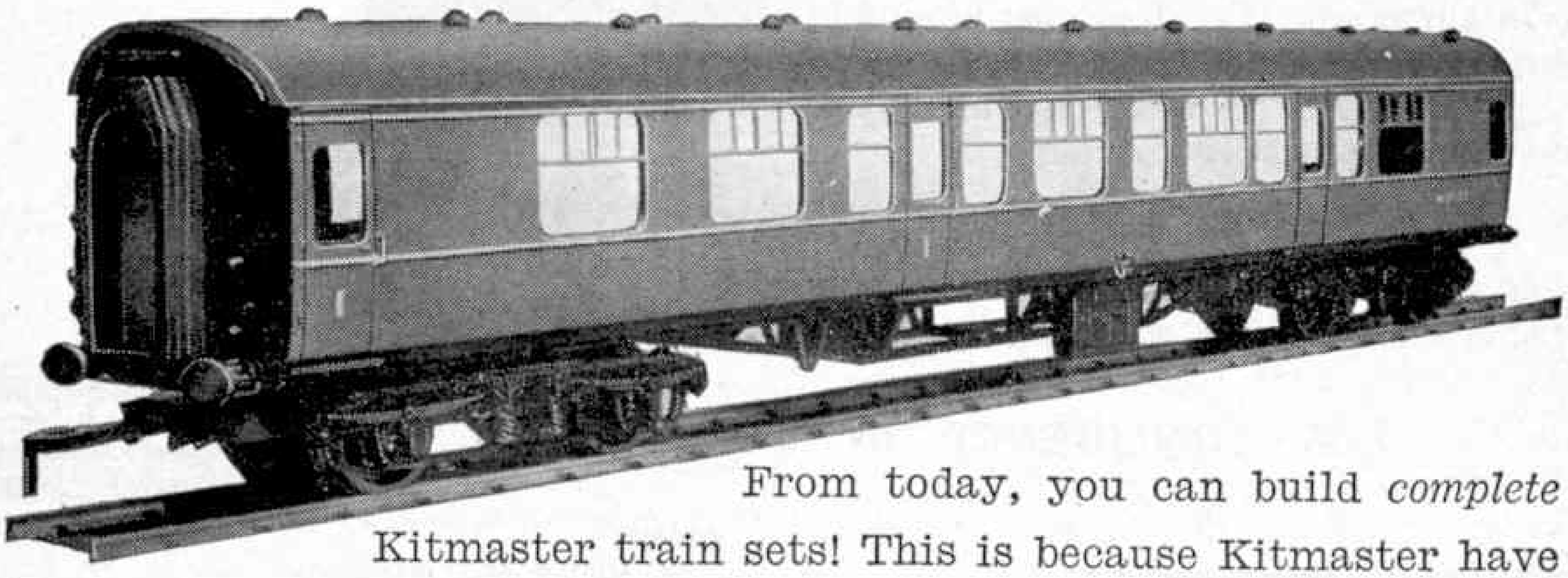

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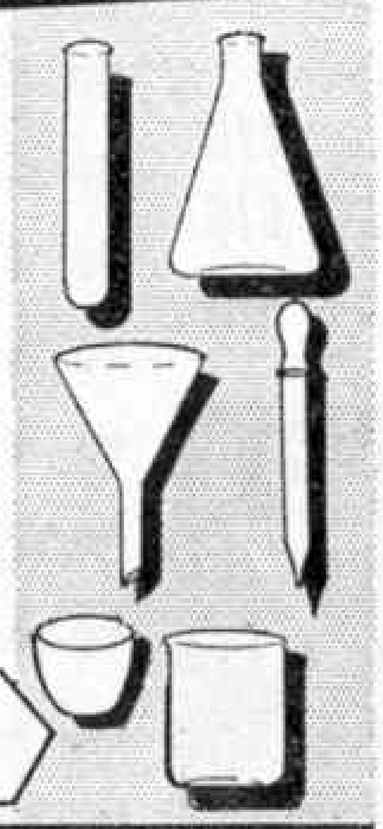

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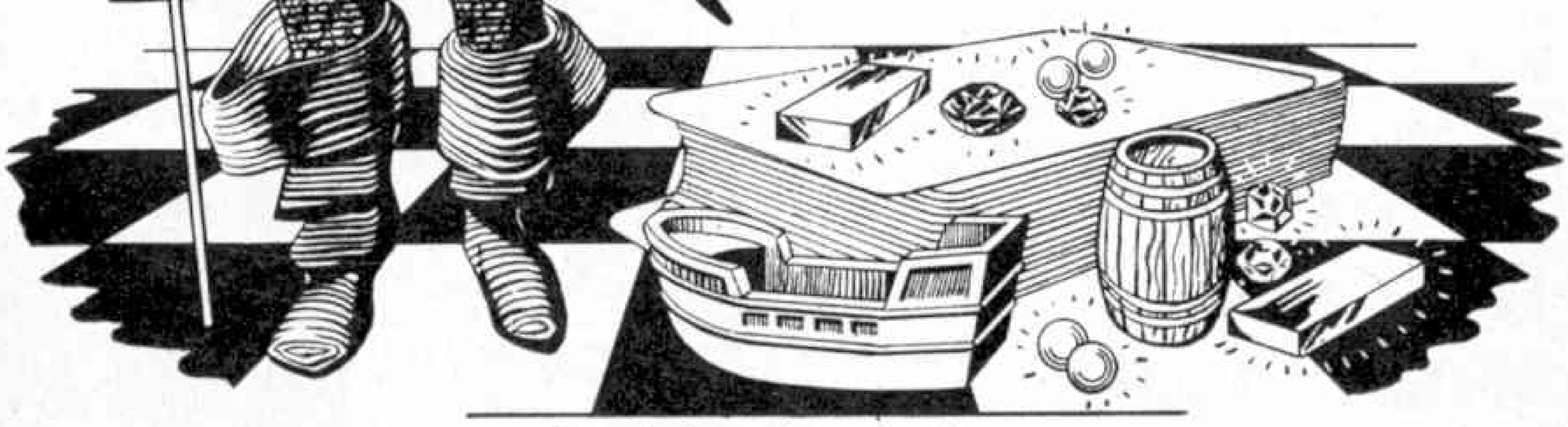

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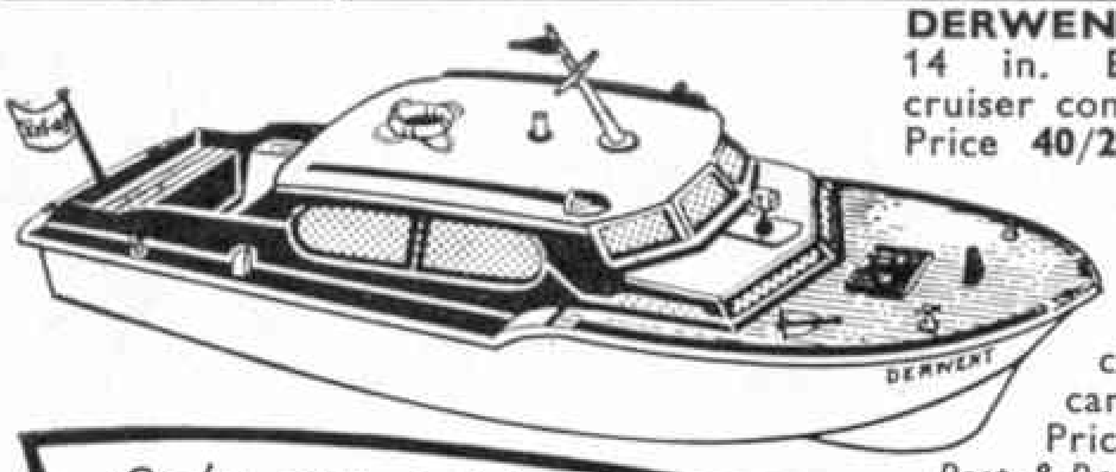

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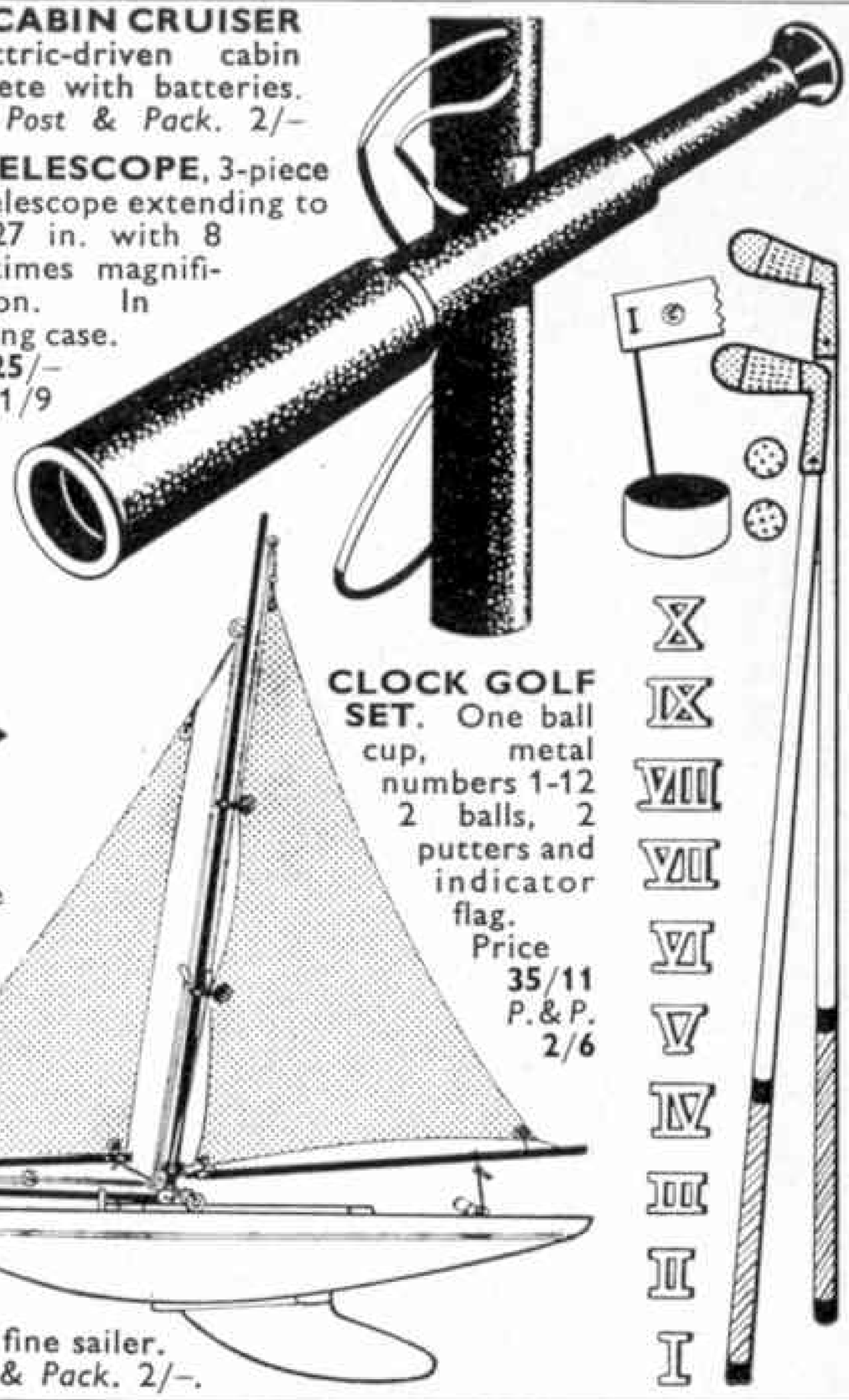

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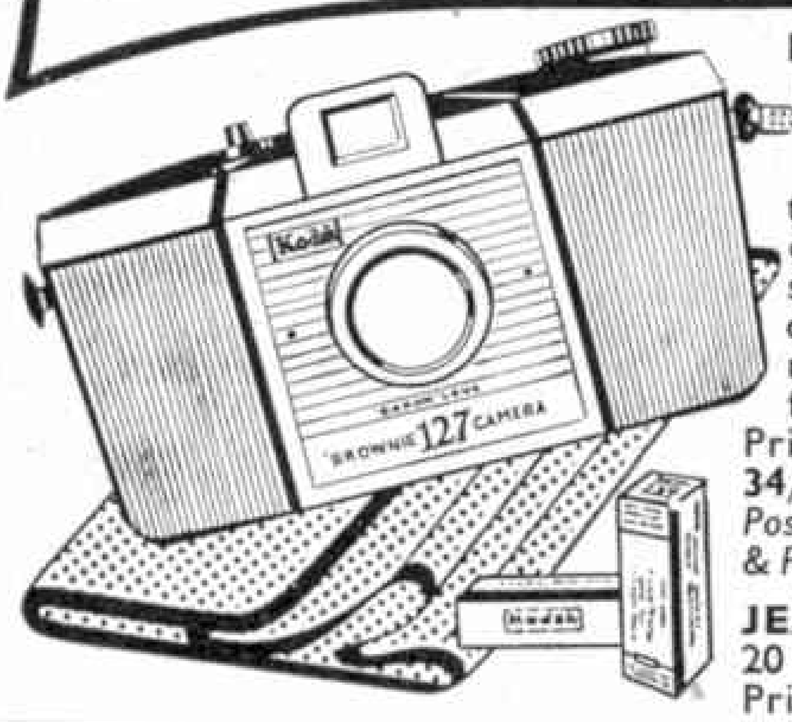

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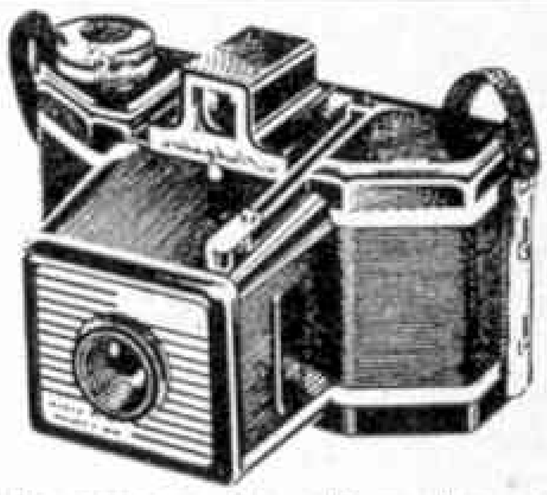

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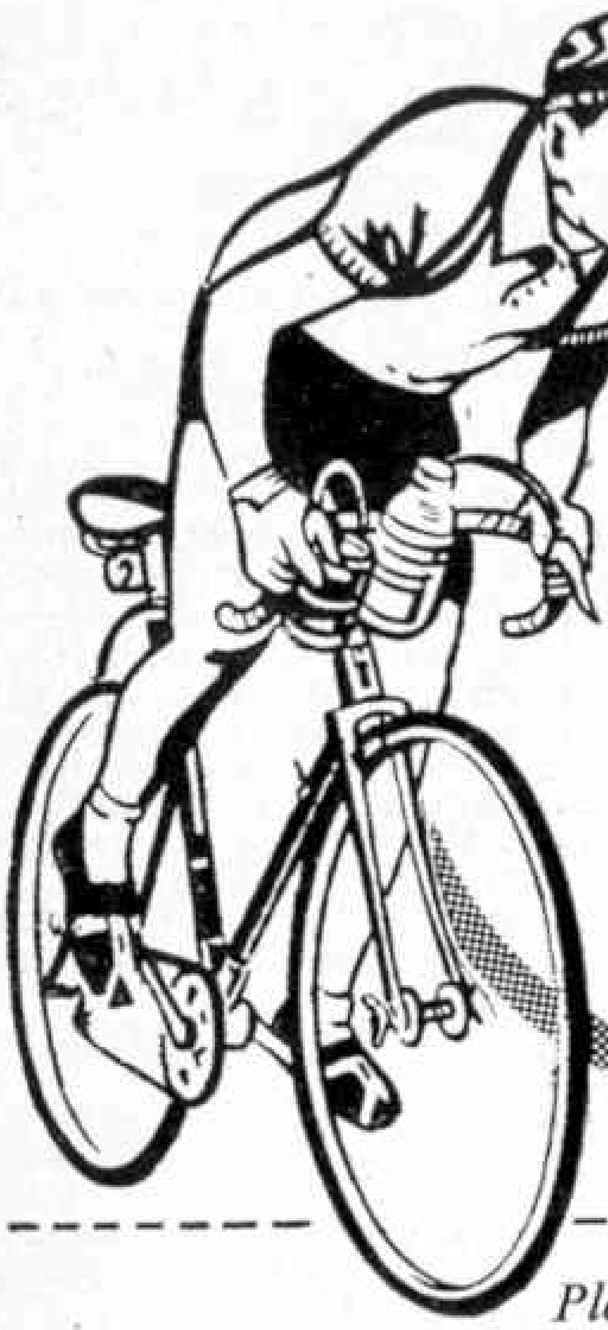

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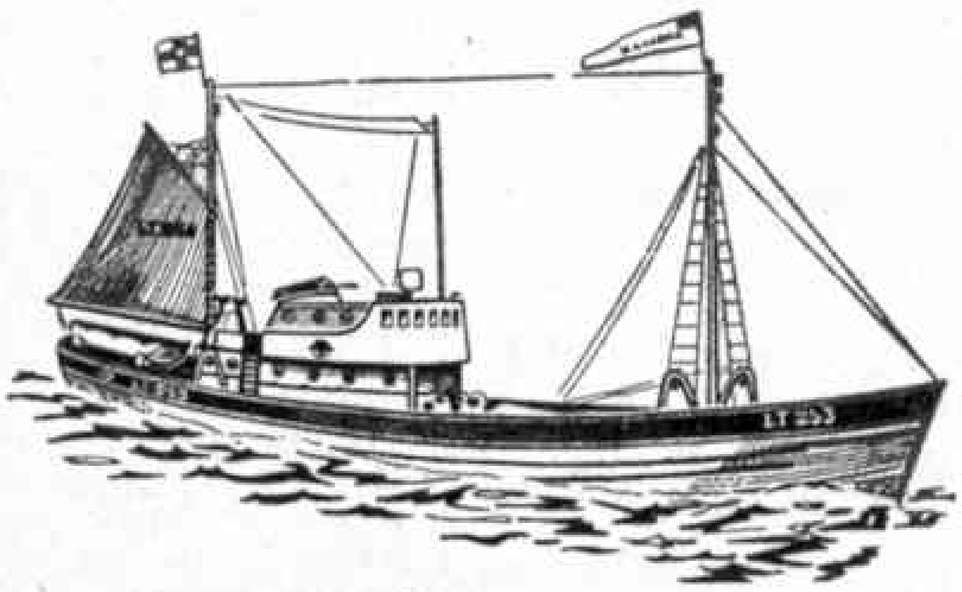

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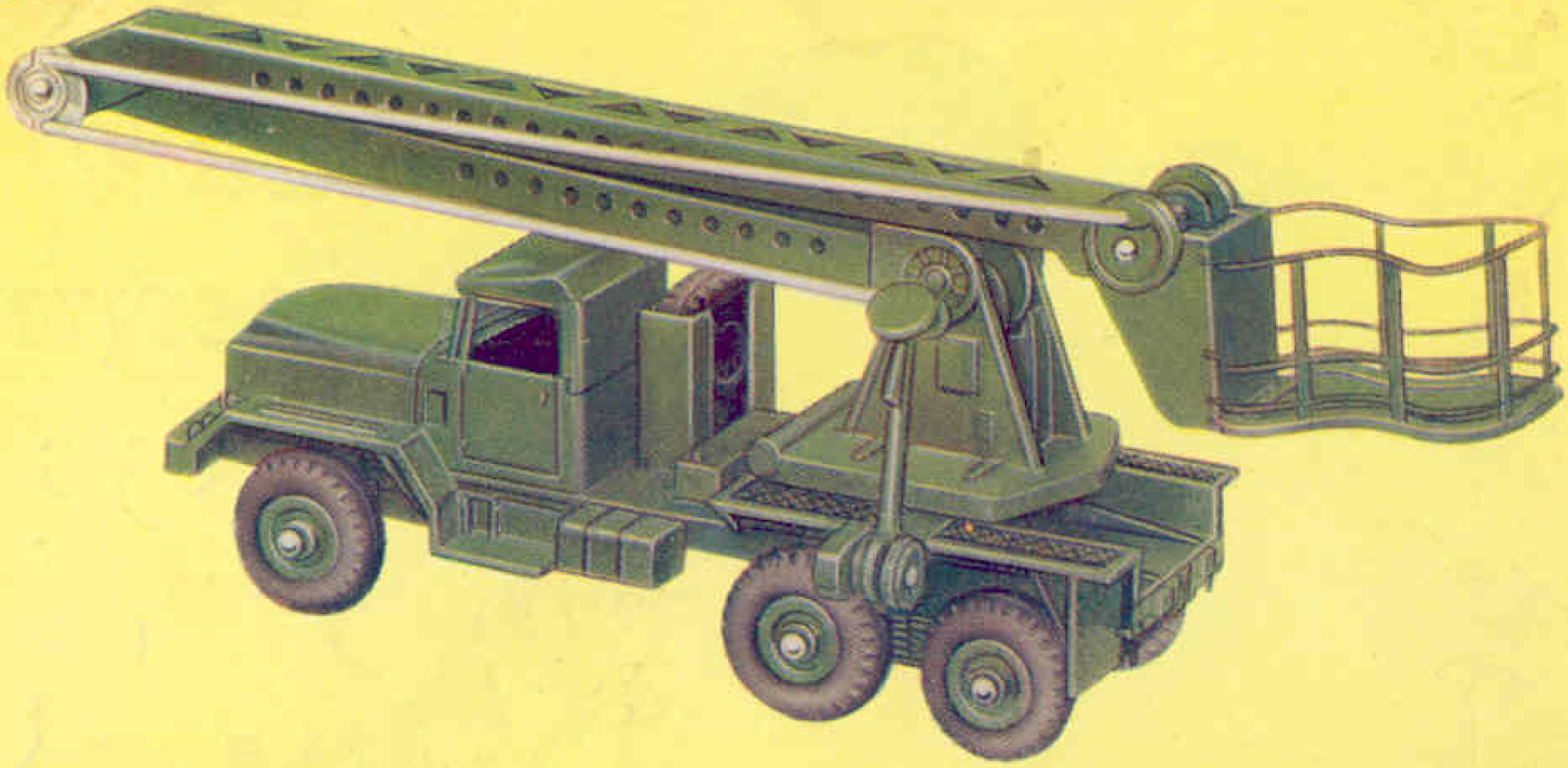

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